SERVICE MANUAL

SD-515

4822 725 50905

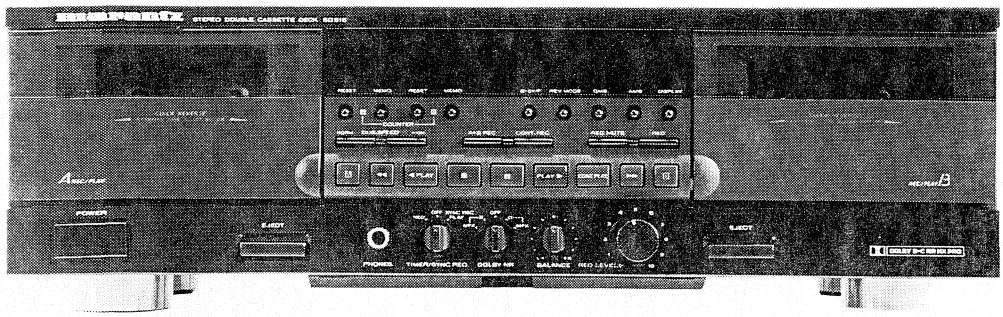
For repair information of the cassette machanism see Service Manaual of "Recorders tape deck CMAY2Z362A/CMAY2Z340A"

marantz®

model SD-515

Stereo Double Cassette Deck

MODEL SD515 STEREO DOUBLE CASSETTE DECK



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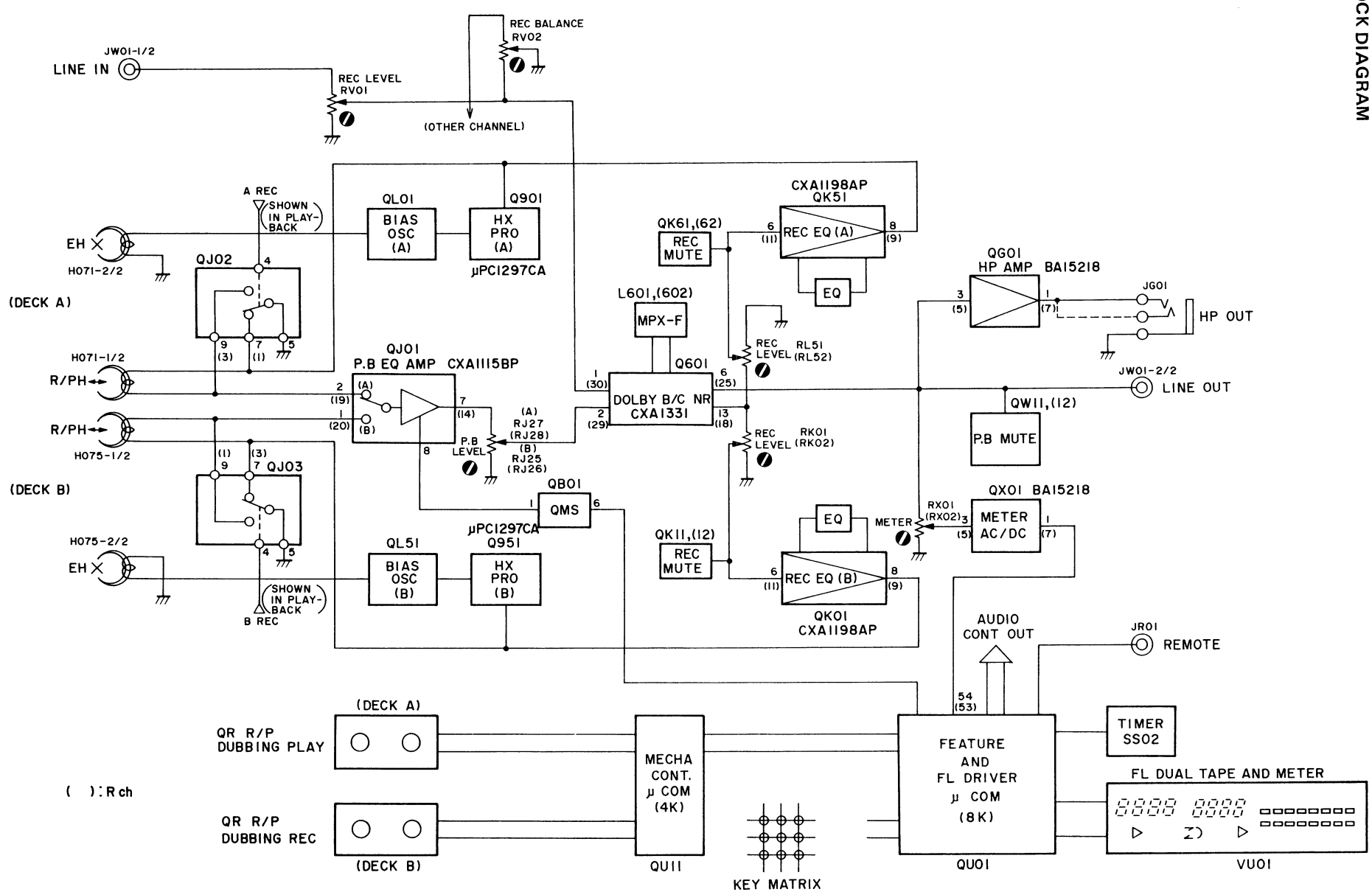
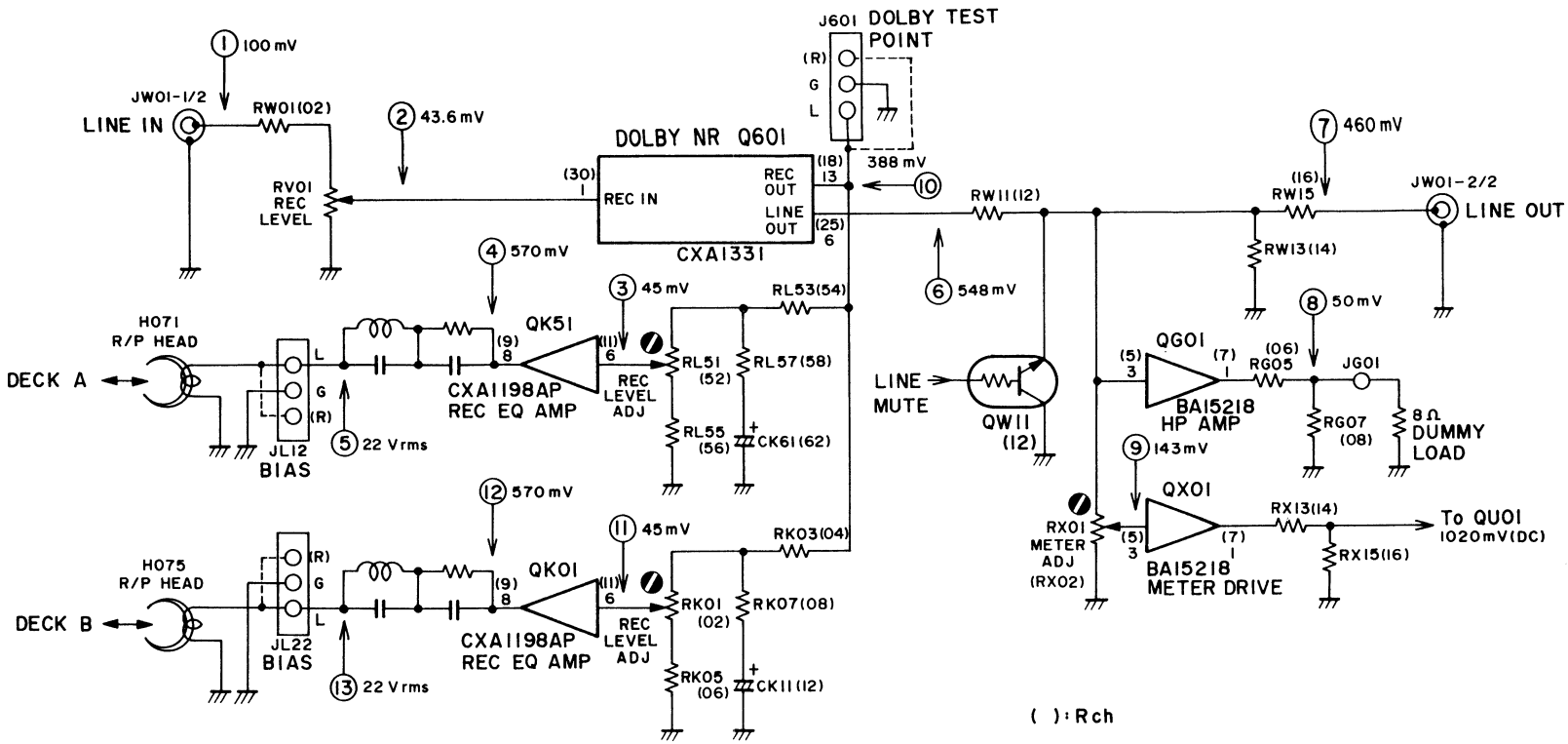
1. TECHNICAL SPECIFICATIONS (DIN)

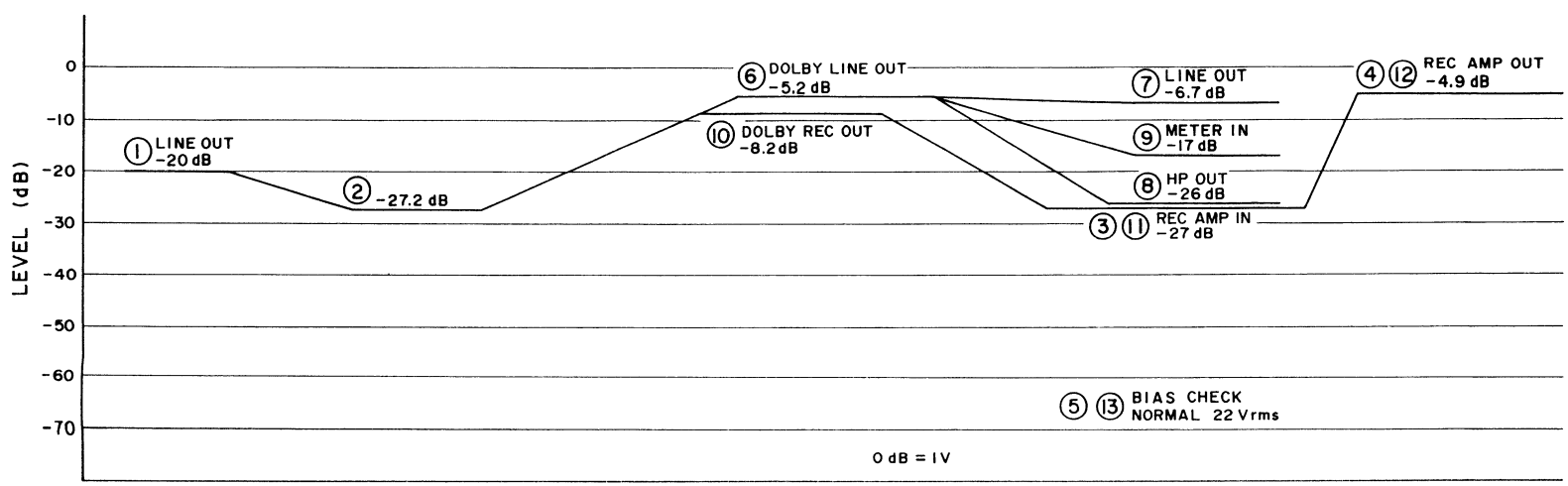
Mechanism	2 x logic quick auto reverse
Tape speed	4.75 cm/sec.
Heads : REC/PLAY	Super hard metal alloy
: Erase	Dual gap ferrite
Motor	DC servo motor x 2
	DC motor x 2

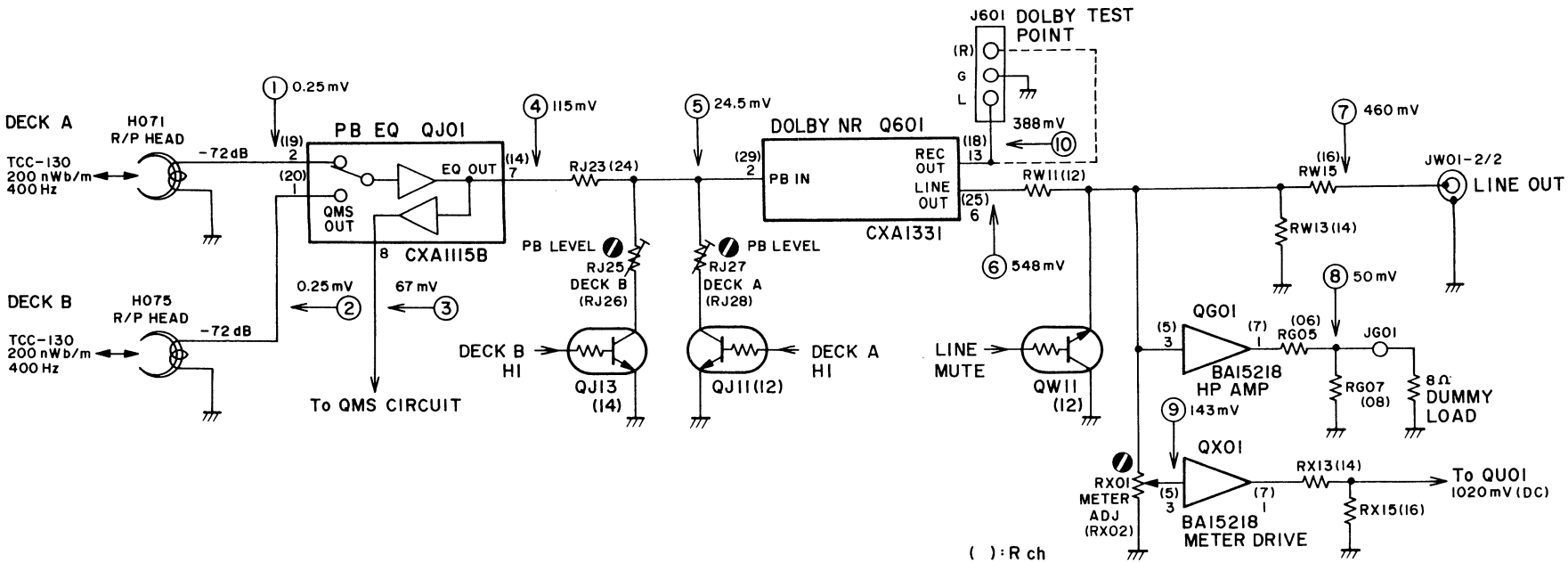
Frequency Response (W/O DOLBY)	
Normal tape	20 Hz ~ 16 kHz
CrO_2 tape	20 Hz ~ 17 kHz
Metal tape	20 Hz ~ 18 kHz
Signal-to-Noise Ratio	
Dolby B/C	66 dB/71 dB
Dolby (OFF)	60 dB
Wow and Flutter	
DIN WTD	0.12%
WRMS	0.06%
Outputs	
Line Level/Impedance	500 mV/3 k ohms
Headphone Level/Impedance	50 mV/60 ohms
Inputs	
Line Sensitivity/Impedance	70 mV/40 k ohms
Fast Rewind Time	90 sec. (C-60)
Fast Forward Time	90 sec. (C-60)
Power Requirements N version	220 V AC, 50/60 Hz
E version	110/120/220/240 V AC, 50/60 Hz
Power Consumption	30W
Unit Dimension	
Panel Width	420 mm
Panel Height	118 mm
Depth	280 mm
Weight	6.2 kg


JW01-1/2
LINE IN
REC LEVEL
RV01
REC BALANCE
RV02
(OTHER CHANNEL)
A REC
SHOWN IN PLAY-BACK
EH
H071-2/2
(DECK A)
QJ02
QL01
BIAS OSC (A)
Q901
HX PRO (A)
μPC1297CA
CXA1198AP
QK51
QK61,(62)
REC MUTE
REC EQ (A)
EQ
QG01
HP AMP BA15218
JG01
HP OUT
L601,(602)
MPX-F
Q601
DOLBY B/C NR CXA1331
REC LEVEL RL51 (RL52)
JW01-2/2
LINE OUT
QW11,(12)
P.B MUTE
QJ01
P.B EQ AMP CXA1115BP
H071-1/2
R/PH
R/PH
H075-1/2
(DECK B)
QJ03
P.B LEVEL
(A) RJ27 (RJ28)
(B) RJ25 (RJ26)
REC LEVEL RK01 (RK02)
QB01
QMS
μPC1297CA
Q951
QX01 BA15218
METER
RX01 (RX02)
METER AC/DC
QK11,(12)
REC MUTE
EQ
REC EQ (B)
QK01
CXA1198AP
H075-2/2
EH
QL51
BIAS OSC (B)
HX PRO (B)
SHOWN IN PLAY-BACK
B REC
AUDIO CONT OUT
JR01
REMOTE
(DECK A)
QR R/P DUBBING PLAY
QR R/P DUBBING REC
(DECK B)
( ):Rch
MECHA CONT. μ COM (4K)
QU11
KEY MATRIX
FEATURE AND FL DRIVER μ COM (8K)
QU01
TIMER SS02
FL DUAL TAPE AND METER
VU01

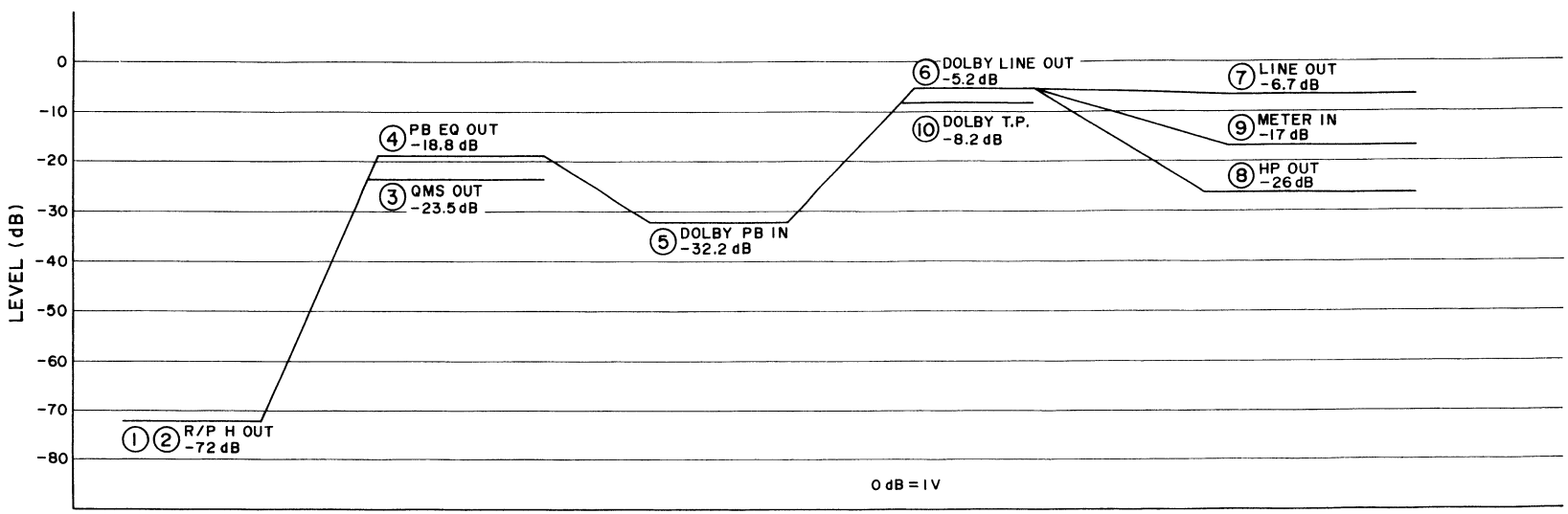


REC LEVEL DIAGRAM

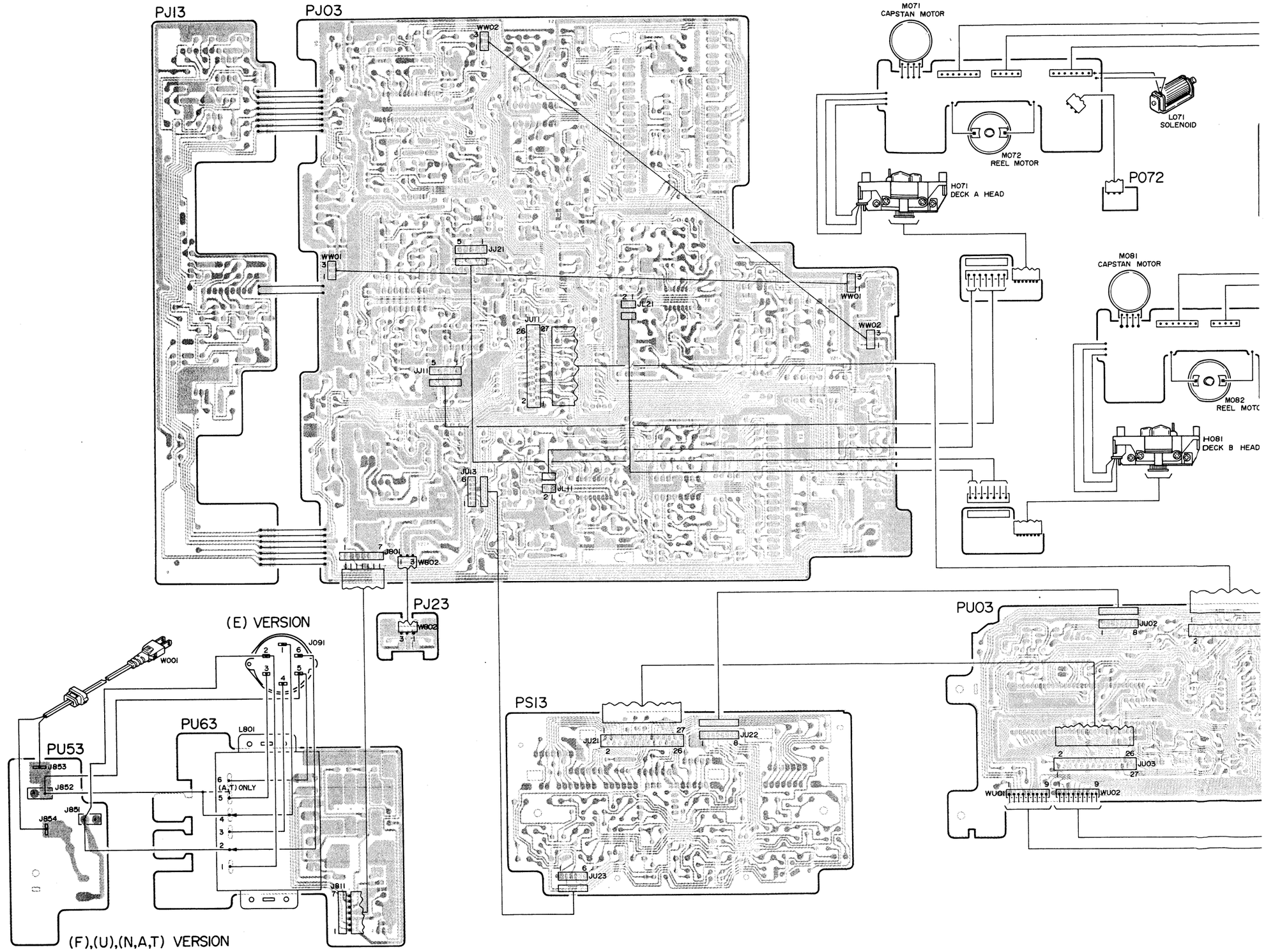


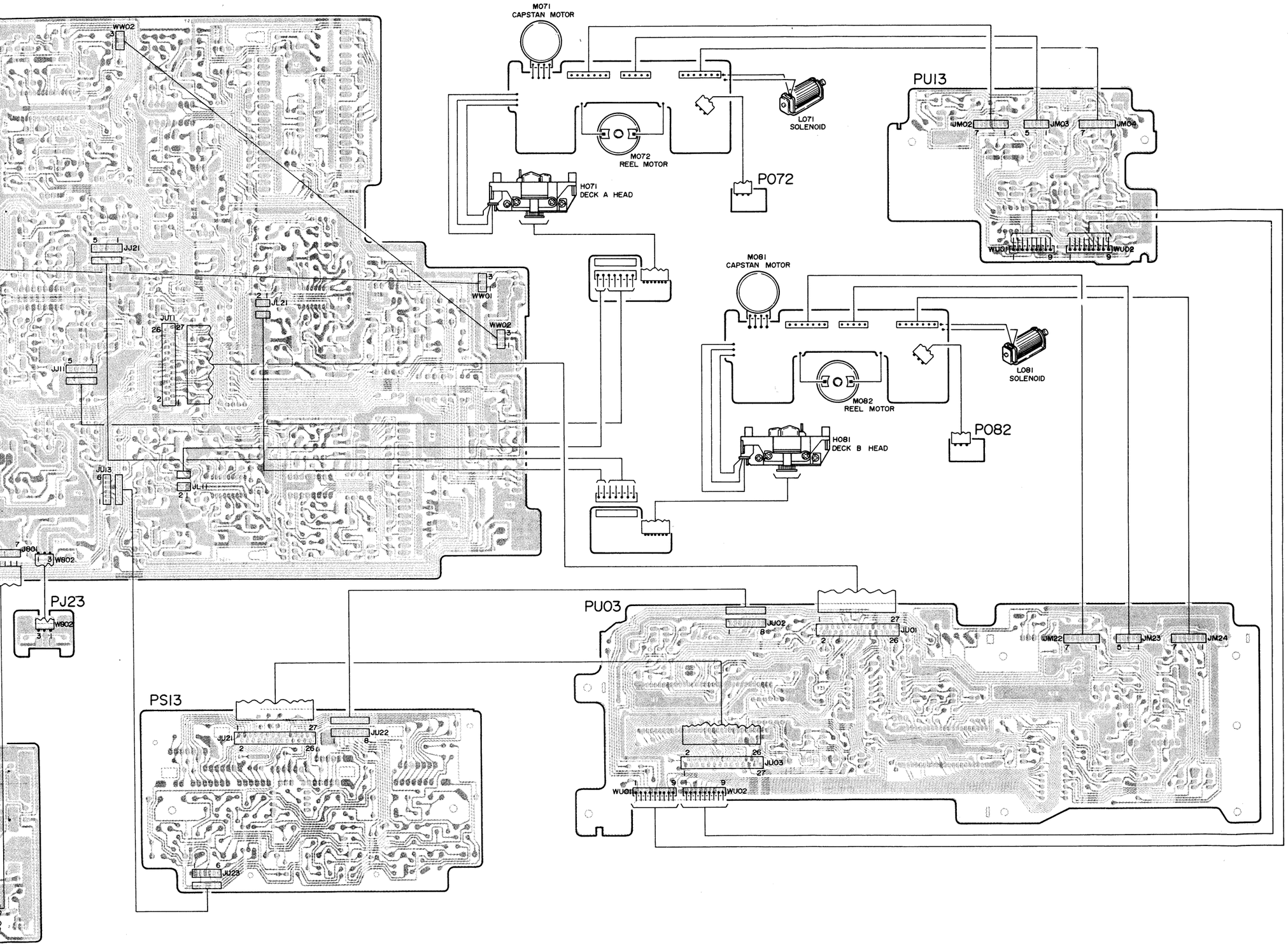


PLAYBACK LEVEL DIAGRAM

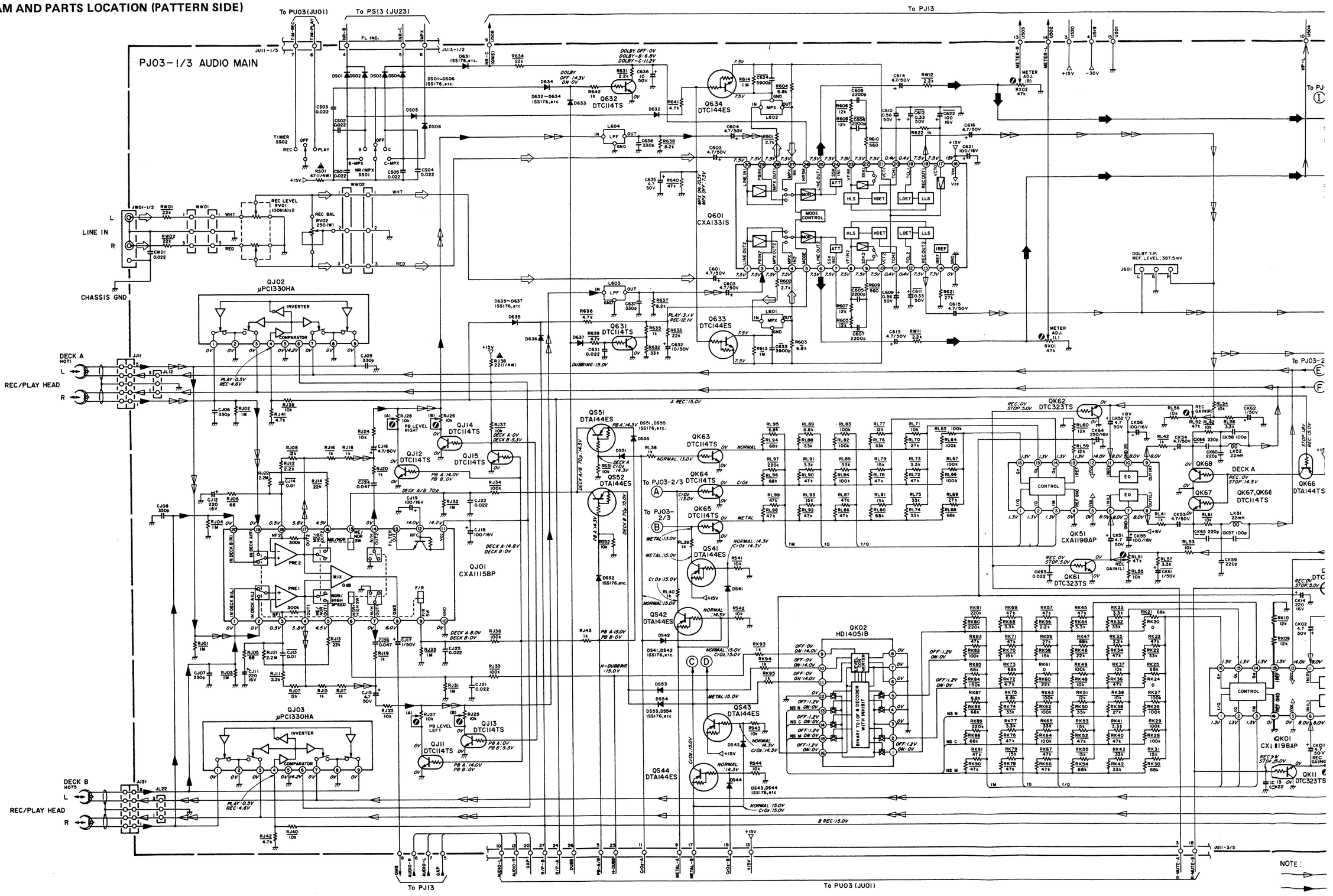


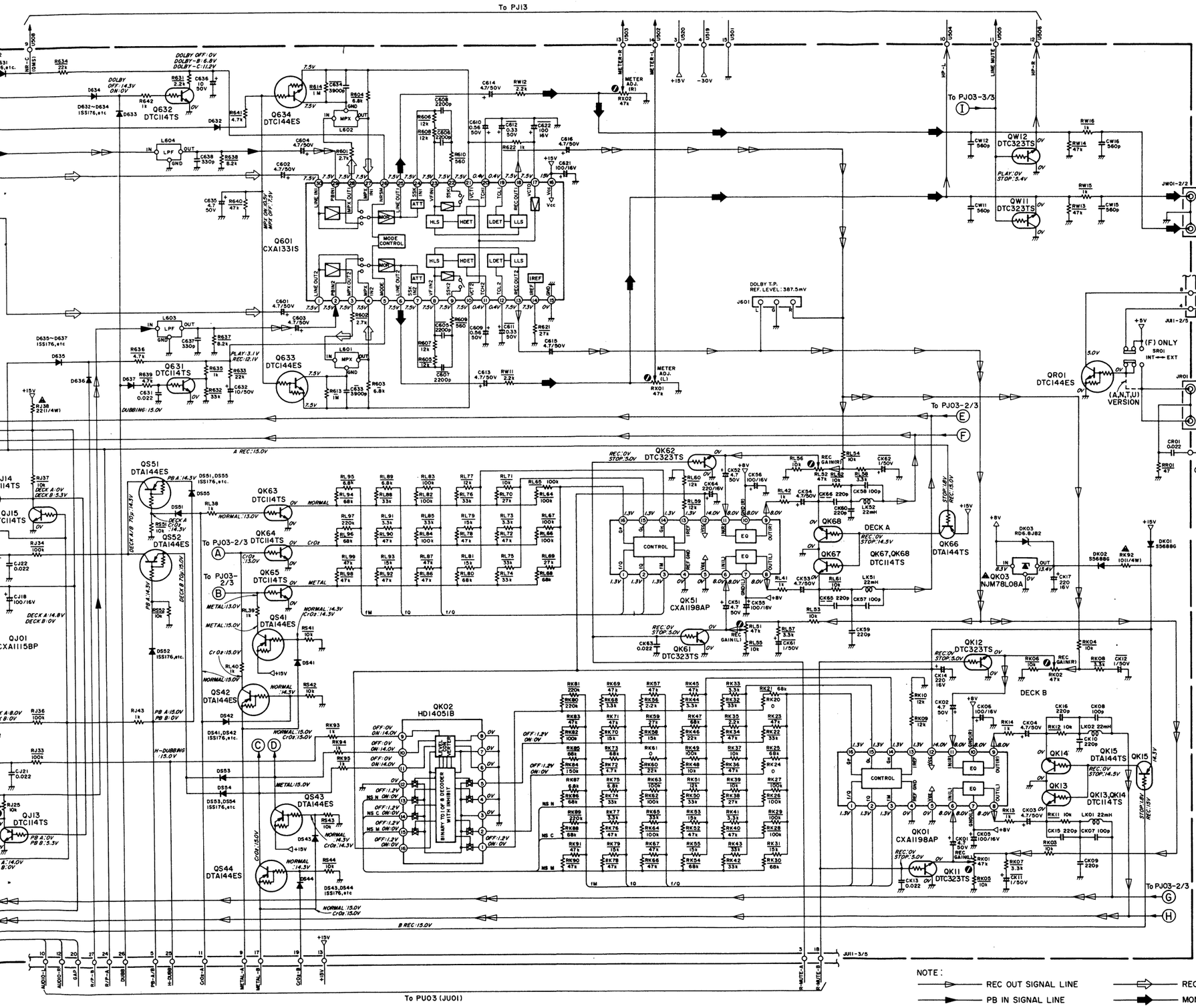
3. CONNECTION DIAGRAM

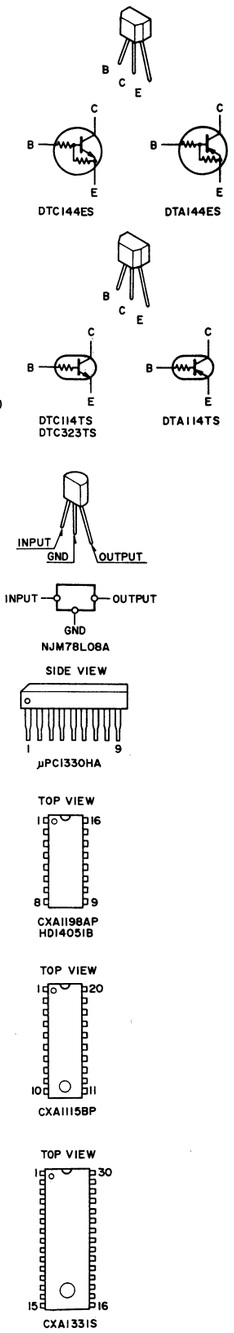



M071
CAPSTAN MOTOR
L071
SOLENOID
M072
REEL MOTOR
H071
DECK A HEAD
P072
PU13
JM02
JM03
JM04
WU01
WU02
M081
CAPSTAN MOTOR
L081
SOLENOID
M082
REEL MOTOR
H081
DECK B HEAD
P082
WW02
WW01
JJ21
JL21
JJ11
JU13
JL11
J801
W802
PJ23
PS13
JU21
JU22
JU23
PU03
JU02
JU01
JU03
JM22
JM23
JM24

4. SCHEMATIC DIAGRAM AND PARTS LOCATION (PATTERN SIDE)



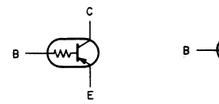

To PJ13
METER-R
METER-L
METER ADJ. (R) RX02 47k
METER ADJ. (L) RX01 47k
+15V
-30V
HP-L
LINE MUTE
HP-R
To PJ03-3/3
QW12 DTC323TS
QW11 DTC323TS
PLAY:0V STOP:5.4V
JW01-2/2
L
R
LINE OUT
To PU03 (JU01)
JU11-2/5
JU11-3/5
DOLBY T.P. REF. LEVEL: 387.5mV
J601
Q632 DTC114TS
Q634 DTC144ES
Q633 DTC144ES
Q631 DTC114TS
Q601 CXA1331S
L602
L601
L603
L604
MODE CONTROL
QR01 DTC144ES
(F) ONLY
(A,N,T,U) VERSION
JR01
REMOTE
CR01 0.022
RR01 47
CHASSIS GND
To PJ03-2/3
QS51 DTA144ES
QS52 DTA144ES
QS41 DTA144ES
QS42 DTA144ES
QS43 DTA144ES
QS44 DTA144ES
QJ01 CXA1115BP
QJ13 DTC114TS
QJ14 DTC114TS
QJ15 DTC114TS
QK63 DTC114TS
QK64 DTC114TS
QK65 DTC114TS
QK62 DTC323TS
QK61 DTC323TS
QK68
QK67
QK67,QK68 DTC114TS
QK66 DTA144TS
QK51 CXA1198AP
QK02 HD14051B
QK12 DTC323TS
QK11 DTC323TS
QK14
QK13
QK15 DTA144TS
QK13,QK14 DTC114TS
QK01 CXA1198AP
DECK A
DECK B
CONTROL
EQ
QK03 NJM78L08A
DK01 S56886
DK02 S56886
DK03 RD6.8JB2
RK92 10Ω(1/4W)
To PU03 (JU01)
R-MUTE-A
R-MUTE-B
NOTE :
REC OUT SIGNAL LINE
PB IN SIGNAL LINE
DUBBING SIGNAL LINE
REC IN SIGNAL LINE
MONITOR OUT SIGNAL LINE
HP MONITOR SIGNAL LINE


DTC144ES
DTA144ES
DTC114TS DTC323TS
DTA114TS
INPUT
GND
OUTPUT
NJM78L08A
SIDE VIEW
μPC1330HA
TOP VIEW
CXA1198AP HD14051B
CXA1115BP
CXA1331S

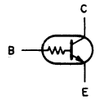
QS52 QS51 QS42 QS43 QS44 QS41 QL32 QL31 Q951 QK02 QK03 QL21
QK63~QK65 QK66~QK68 QK62 QK61 QK51
Q901 QL01 QK11~QK15 QK01 QU43 QU42 QL12 QL11 Q633 Q634 QJ03 QJ02 QU41 Q601 QJ01 Q631 QJ11~QJ15 Q801 QW11 QW12 QR01 QX01 QX11 QX12 QB02 QB06 QG01 QB01 QB04 QB05 QG02

PJ03

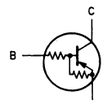
PJ13



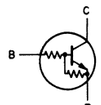
QK15,QK66



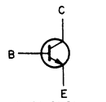
Q631,Q632,QJ11~QJ15
QK11~QK14,QK61~QK65
QK67,QK68,QL12,QL32



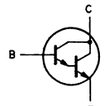
QS41~QS44,QS51
QS52,QU43



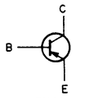
Q633,Q634,QR01
QU42



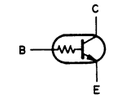
QL01,QL21



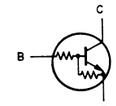
QL11,QL31



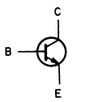
QU41



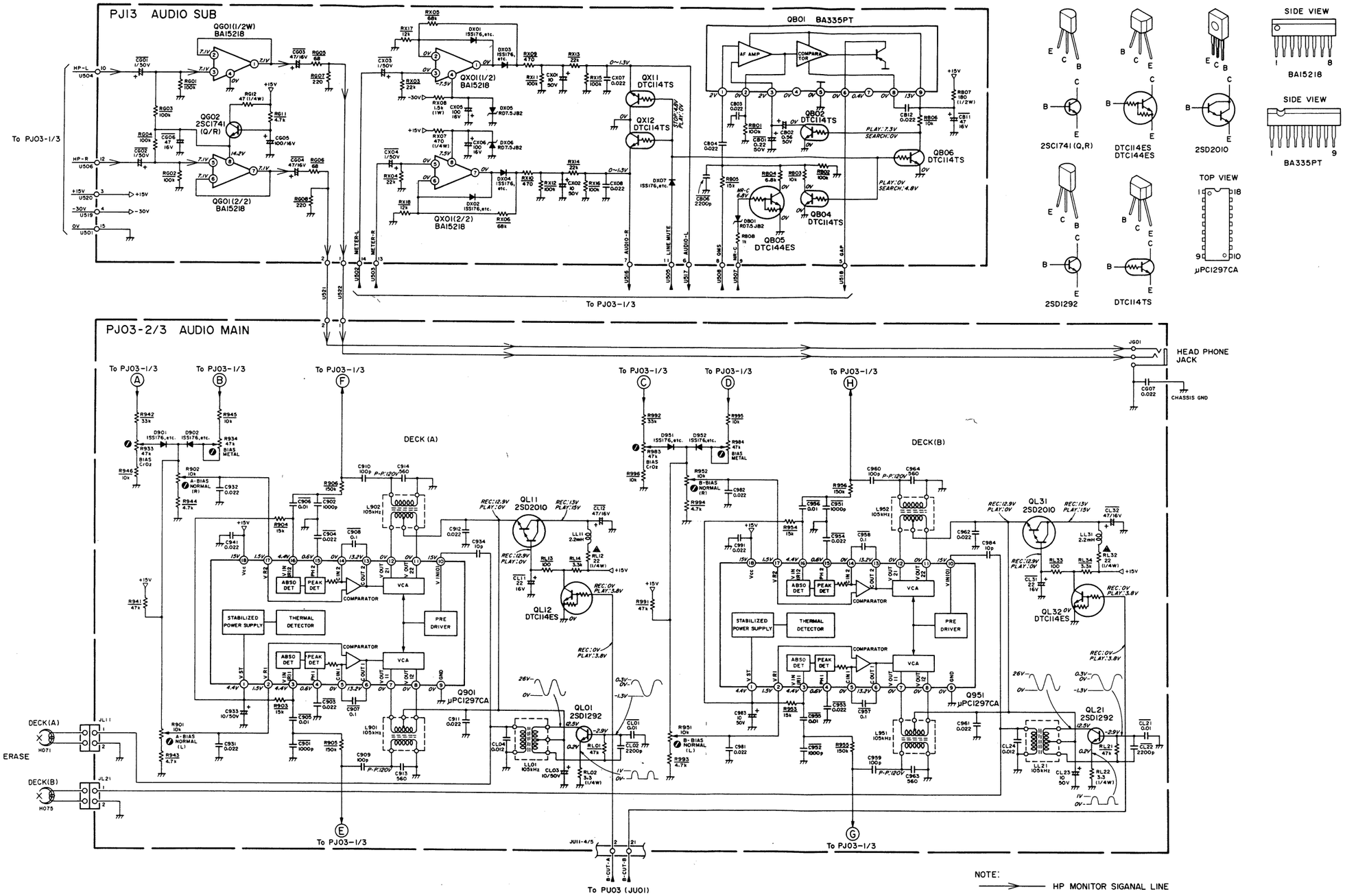
QB02,QB04,QB06,QW11
QW12,QX11,QX12



QB05



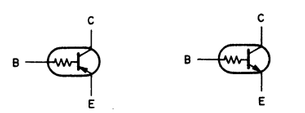
QG02



NOTE:
——→ HP MONITOR SIGANAL LINE

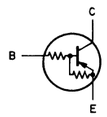
NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

QS52 QS51 QS42 QS43 QS44 QS41 QL32 QL31 Q951 QL21 QK02 QK03 QK11~QK15 QK01 Q633 Q634 QU41 Q601 Q631 QW11 QW12 QX01 QX11 QX12
QK63~QK65 QK66~QK68 QK62 QK61 QK51 Q901 QL01 QU43 QU42 QJ03 QJ02 QJ01 QJ11~QJ15 QR01 QB02 QB06 QB01 QB04 QB05
QL12 QL11 QB01 QG01 QG02

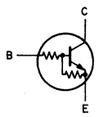


QK15,QK66

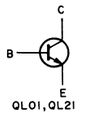
Q631,Q632,QJ11~QJ15
QK11~QK14,QK61~QK65
QK67,QK68,QL12,QL32



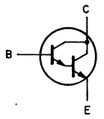
QS41~QS44,QS51
QS52,QU43



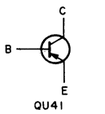
Q633,Q634,QR01
QU42



QL01,QL21



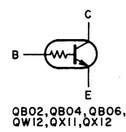
QL11,QL31



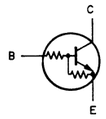
QU41

PJ03

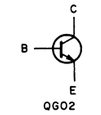
PJ13



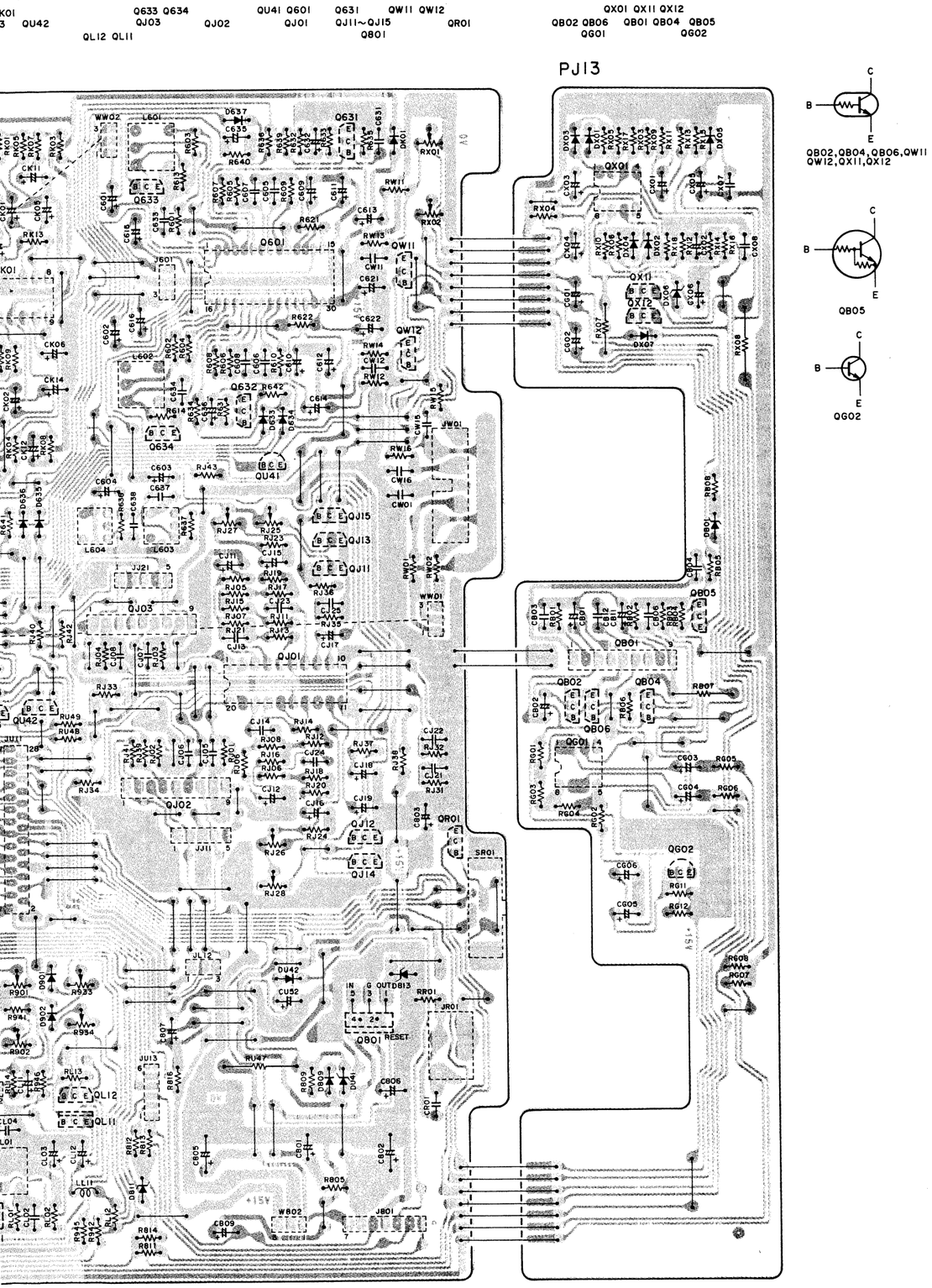
QB02,QB04,QB06,QW11
QW12,QX11,QX12



QB05



QG02



5. MICROPROCESSOR I/O PINS AND THEIR FUNCTIONS

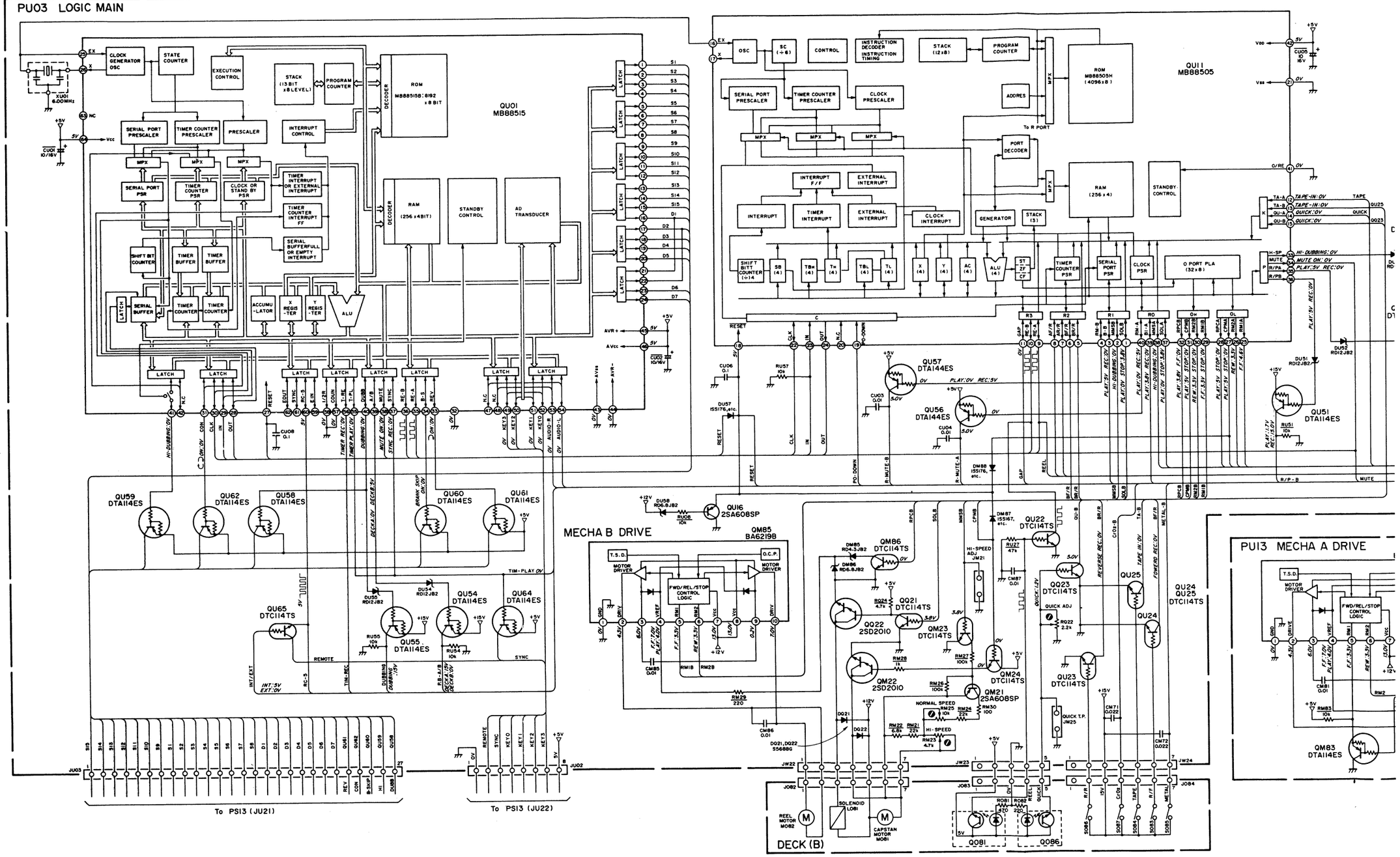
QU01 : MB88515 (Feature)

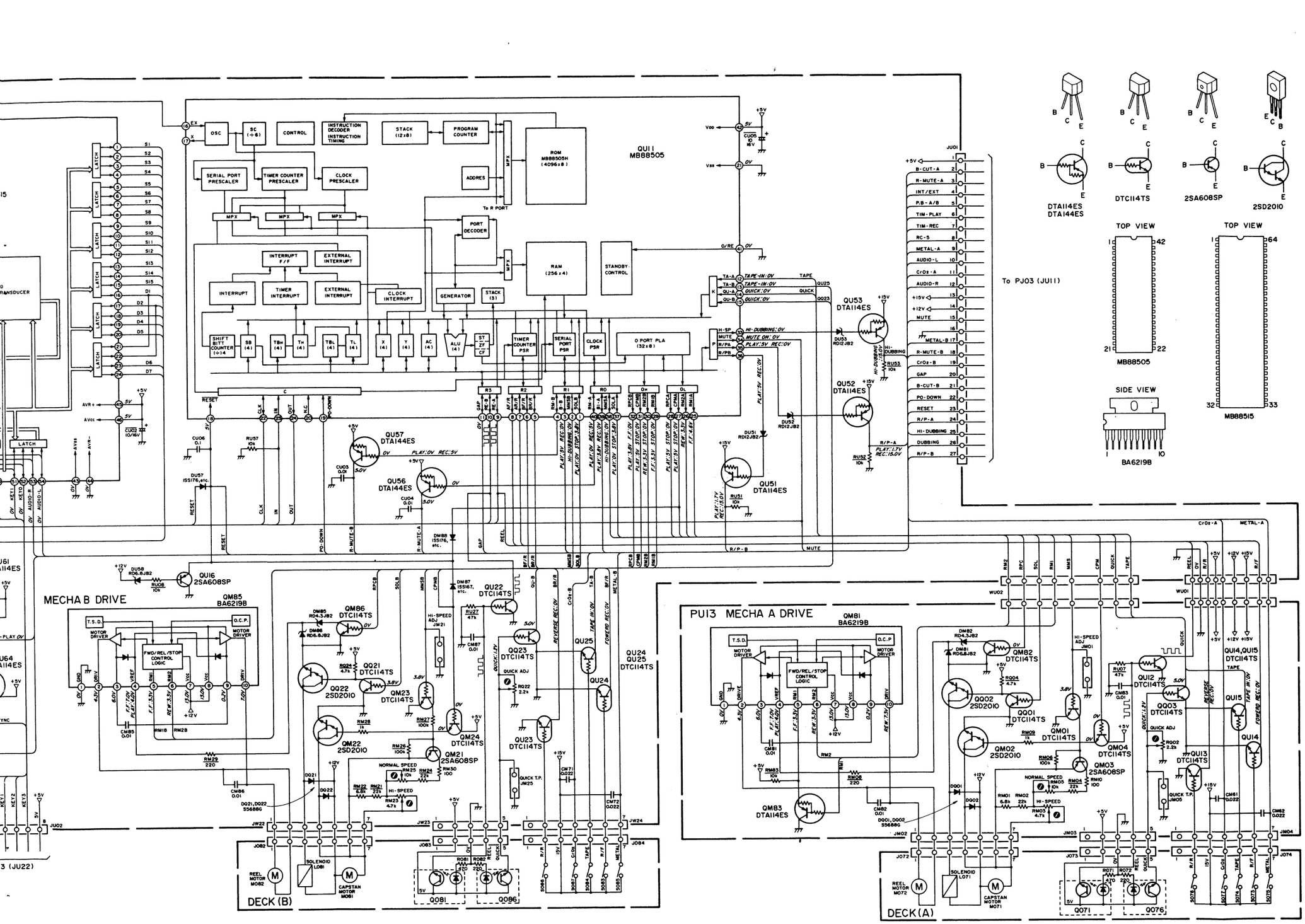
Pin No.	Port Name		I/O	Act	Function	Pin No.	Port Name		I/O	Act	Function
1	E0	E0	O	H	Segment Output	33	R0	REV	O	L	⇄⊃ Mode Indicate
2	E1	E1	O	H		34	R1	B-SKIP	O	L	Blank Skip Indicator
3	E2	E2	O	H		35	R2	RE-A	I	–	Reel Puls Mecha. A
4	E3	E3	O	H		36	R3	RE-B	I	–	Reel Puls Mecha. B
5	E4	E4	O	H		37	R4	SYNC	I	L	Sync Rec Input
6	E5	E5	O	H		38	R5	MUTE	O	L	Mute Output
7	E6	E6	O	H		39	R6	A/B	O	L	Play Back A/B Select Output
8	E7	E7	O	H		40	R7	DUBB	O	L	Dubbing Output
9	E8	E8	O	H		41	E37	–	–	–	N.C
10	E9	E9	O	H		42	E36	–	–	–	N.C
11	E10	E10	O	H		43	AVSS	AVSS	–	–	AD Converter GND
12	E11	E11	O	H		44	AVR^-	AVR^-	–	–	AD Converter Reference GND
13	E12	E12	O	H		45	AVR^+	AVR^+	–	–	AD Converter Reference VCC
14	E13	E13	O	H		46	AVCC	AVCC	–	–	AD Converter Power Supply
15	E14	E14	O	H		47	AN7	–	–	–	N.C
16	E15	E15	O	H		48	AN6	–	–	–	N.C
17	E16	E16	O	H	Digit Output	49	AN5	KEY3	I	H	AD Converter Key Matrix
18	E17	E17	O	H		50	AN4	KEY2	I	H	AD Converter Key Matrix
19	E18	E18	O	H		51	AN3	KEY1	I	H	AD Converter Key Matrix
20	E19	E19	O	H		52	AN2	KEY0	I	H	AD Converter Key Matrix
21	E20	E20	O	H		53	AN1	MET R	I	H	Rch Level Meter Input
22	E21	E21	O	H		54	AN0	MET L	I	H	Lch Level Meter Input
23	E22	E22	O	H		55	R8	T-PLAY	I	L	Timer Play Input
24	E23	E23	O	H		56	R9	T-REC	I	L	Timer Rec Input
25	EX	MAIN CLK	I	–	Clock Input	57	R0	MODE	I	L	Counter Mode Select
26	X	MAIN CLK	O	–	Clock Output	58	R11	1/2 REC	I	L	Signal/Double Rec Select
27	$\overline{RESET}$	RESET	I	H	Reset Input	59	R12	E-IN	I	L	Easy Input
28	SO	DATA OUT	O	L	Serial Data Output	60	R13	RC-5	I	L	Remote Control Input
29	SI	DATA IN	I	L	Serial Data Input	61	R14	SYNC	I	L	Sync Rec Input
30	$\overline{SC}$	DATA CLK	O	–	Clock for Data	62	R15	E-OUT	O	L	Easy Output
31	E27	CON	O	L	⊂⇄⊃ Mode Indicate	63	NC	–	–	–	N.C
32	VSS	VSS	–	–	GND	64	VCC	VCC	–	–	Power Supply 5V

QU11 : MB88505 (Mechanism)

Pin No.	Port Name		I/O	Act	Function	Pin No.	Port Name		I/O	Act	Function
1	R4	SOL-B	O	L	Solenoid Drive	22	$\overline{SC}$	Data-Clock	I	–	Data Clock
2	R5	MMS-B	O	H	Tape Speed Control	23	SI	Data-In	I	–	Data In
3	R6	Bias-B	O	L	Bias Control Mecha. B	24	SO	Data-Out	O	–	Data Out
4	R7	R-Mute-B	O	L	Rec Mute Mecha. B	25	O0	RM1-A	O	H	Reel Motor Drive FWD Mecha. A
5	R8	R/R-B	I	L	Reverse Rec Mecha. B	26	O1	RM2-A	O	H	Reel Motor Drive Rev Mecha. A
6	R9	F/R-B	I	L	Forward Rec Mecha. B	27	O2	CPM-A	O	H	Capstan Motor Drive Mecha. A
7	R10	R/R-A	I	L	Reverse Rec Mecha. A	28	O3	RPC-A	O	H	Reel Motor Torque Control Mecha. A
8	R11	F/R-A	I	L	Forward Rec Mecha. A	29	O4	RM1-B	O	H	Reel Motor Drive FWD Mecha. B
9	R12	REEL-A	I	–	Reel Pulse Mecha. A	30	O5	RM2-B	O	H	Reel Motor Drive Rev Mecha. B
10	R13	REEL-B	I	–	Reel Pulse Mecha. B	31	O6	CPM-B	O	H	Capstan Motor Drive Mecha. B
11	R14	Gap	I	H	Music Gap	32	O7	RPC-B	O	H	Reel Motor Torque Control Mecha. B
12	K0	Tape-A	I	L	Tape In Mecha. A	33	P0	H-SPEED	O	L	Hi-Speed Dubbing Signal
13	K1	Tape-B	I	L	Tape In Mecha. B	34	P1	Mute	O	L	Line Mute
14	K2	Quick-A	I	L	Quick Reverse Mecha. A	35	P2	R/P-A	O	H	Rec/Play Mode Control Mecha. A
15	K3	Quick-B	I	L	Quick Reverse Mecha. B	36	P3	R/P-B	O	H	Rec/Play Mode Control Mecha. B
16	EX	Main Clock	–	–	Main Clock	37	R0	SOL-A	O	L	Solenoid Drive Mecha. A
17	X	–	–	–	–	38	R1	MMS-A	O	H	Tape Speed Control Mecha. A
18	$\overline{Reset}$	Reset	I	H	Reset	39	R2	Bias-A	O	L	Bias Control Mecha. A
19	$\overline{IRQ}$	P-Down	I	L	Power off Mecha. Reset	40	R3	R-Mute-A	O	L	Rec Mute Mecha. A
20	$\overline{TC}$	–	–	–	–	41	Start	One/Rev	I	L	One Way/Reverse Select
21	VSS	VSS	–	–	GND	42	VCC	VCC	–	–	Power Supply 5V

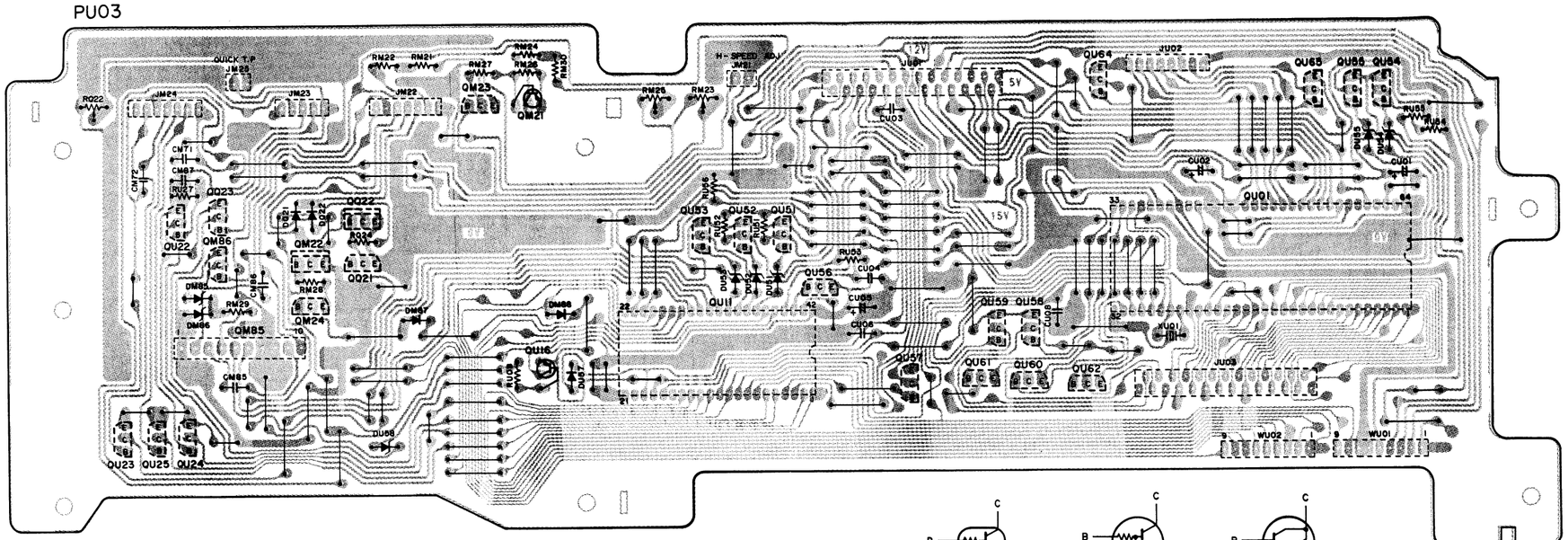
PU03 LOGIC MAIN

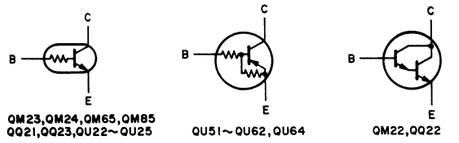



QU11 MB88505
ROM MB88505H (4096x8)
RAM (256x4)
OSC
SC (÷6)
CONTROL
INSTRUCTION DECODER
INSTRUCTION TIMING
STACK (12x8)
PROGRAM COUNTER
SERIAL PORT PRESCALER
TIMER COUNTER PRESCALER
CLOCK PRESCALER
PORT DECODER
STANDBY CONTROL
INTERRUPT F/F
EXTERNAL INTERRUPT
TIMER INTERRUPT
CLOCK INTERRUPT
GENERATOR
STACK (3)
SHIFT BIT COUNTER (÷14)
SB (4)
TBH (4)
TH (4)
TBL (4)
TL (4)
X (4)
Y (4)
AC (4)
ALU (4)
TIMER COUNTER PSR
SERIAL PORT PSR
CLOCK PSR
0 PORT PLA (32x8)
To R PORT
To PJ03 (JU11)
QU53 DTA114ES
QU52 DTA114ES
QU51 DTA114ES
QU57 DTA144ES
QU56 DTA144ES
QU16 2SA608SP
QM85 BA6219B
QM86 DTC114TS
QM87 2SD2010
QM88 DTC114TS
QM21 2SA608SP
QM22 2SD2010
QM23 DTC114TS
QM24 DTC114TS
QU22 DTC114TS
QU23 DTC114TS
QU24 QU25 DTC114TS
QU25
QU24
QQ22 2SD2010
QQ23 DTC114TS
QQ21 DTC114TS
QM81 BA6219B
QM82 DTC114TS
QM83 DTA114ES
QQ01 DTC114TS
QQ02 2SD2010
QM01 DTC114TS
QM02 2SD2010
QM03 2SA608SP
QM04 DTC114TS
QU12 DTC114TS
QU13 DTC114TS
QU14 QU15 DTC114TS
QU15
QU14
QQ03 DTC114TS
PU13 MECHA A DRIVE
MECHA B DRIVE
DECK (A)
DECK (B)
REEL MOTOR M072
REEL MOTOR M082
CAPSTAN MOTOR M071
CAPSTAN MOTOR M081
SOLENOID L071
SOLENOID L081
DTA114ES DTA144ES
DTC114TS
2SA608SP
2SD2010
TOP VIEW
MB88505
MB88515
SIDE VIEW
BA62198
JU01
JU02
JU03 (JU22)
JU22
JU23
JU24
JU82
JU83
JU84
JM01
JM02
JM03
JM04
JU72
JU73
JU74
WU01
WU02
Q081
Q086
Q071
Q076
TAPE-IN:0V
TAPE-IN:0V
QUICK:0V
QUICK:0V
HI-DUBBING:0V
MUTE ON:0V
PLAY:3V REC:0V
PLAY:3V REC:0V
PLAY:0V REC:3V
PLAY:1.7V REC:1.7V
PLAY:1.7V REC:1.5V
REVERSE REC:0V
FOWERD REC:0V
TAPE M:1.0V
QUICK:1.2V
DU53 RD12JB2
DU52 RD12JB2
DU51 RD12JB2
DU57 1SS176,etc.
DU58 RD6.8JB2
DM85 RD4.3JB2
DM86 RD6.8JB2
DM87 1SS167, etc.
DM88 1SS176, etc.
DM81 RD6.8JB2
DM82 RD4.3JB2
DQ21,DQ22 S56886
DQ001,DQ002 S56886
CU06 0.1
CU03 0.01
CU04 0.01
CU05 10 16V
CU02 22 10/16V
CM85 0.01
CM86 0.01
CM87 0.01
CM71 0.022
CM72 0.022
CM81 0.01
CM82 0.01
CM83 0.01
CM61 0.022
CM62 0.022
RU08 10k
RU57 10k
RU27 47k
RU53 10k
RU52 10k
RU51 10k
RU07 47k
RQ22 2.2k
RQ02 2.2k
RQ04 4.7k
RM28 1k
RM27 100k
RM26 100k
RM29 220
RM30 100
RM24 22k
RM25 10k
RM22 6.8k
RM21 22k
RM23 4.7k
RM83 10k
RM08 220
RM09 1k
RM04 22k
RM05 10k
RM10 100
RM01 6.8k
RM02 22k
RM03 4.7k
RQ81 470
RQ82 220
RQ71 470
RQ72 220
QUICK ADJ
QUICK T.P. JM25
QUICK T.P. JM05
HI-SPEED ADJ JM21
HI-SPEED ADJ JM01
NORMAL SPEED
HI-SPEED
To R PORT
To PJ03 (JU11)

QU22 QQ23 QM86 QM22 QQ22 QM23 QM21 QU53 QU52 QU51 QU64 QU65 QU55 QU54
QU23 QU25 QU24 QM85 QM24 QQ21 QU16 QU11 QU56 QU57~QU62 QU01

PU03





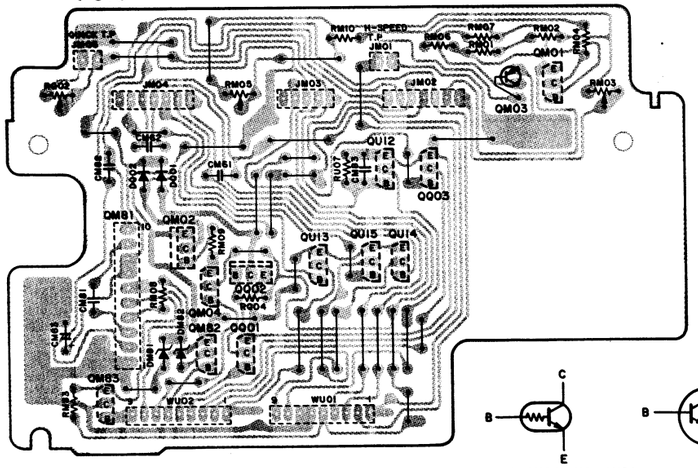
QM23,QM24,QM65,QM85
QQ21,QQ23,QU22~QU25

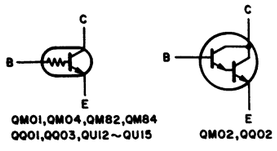
QU51~QU62,QU64

QM22,QQ22

QM81 QM02 QM04 QQ02 QU12~QU15 QQ03 QM03 QM01
QM83 QM82 QQ01

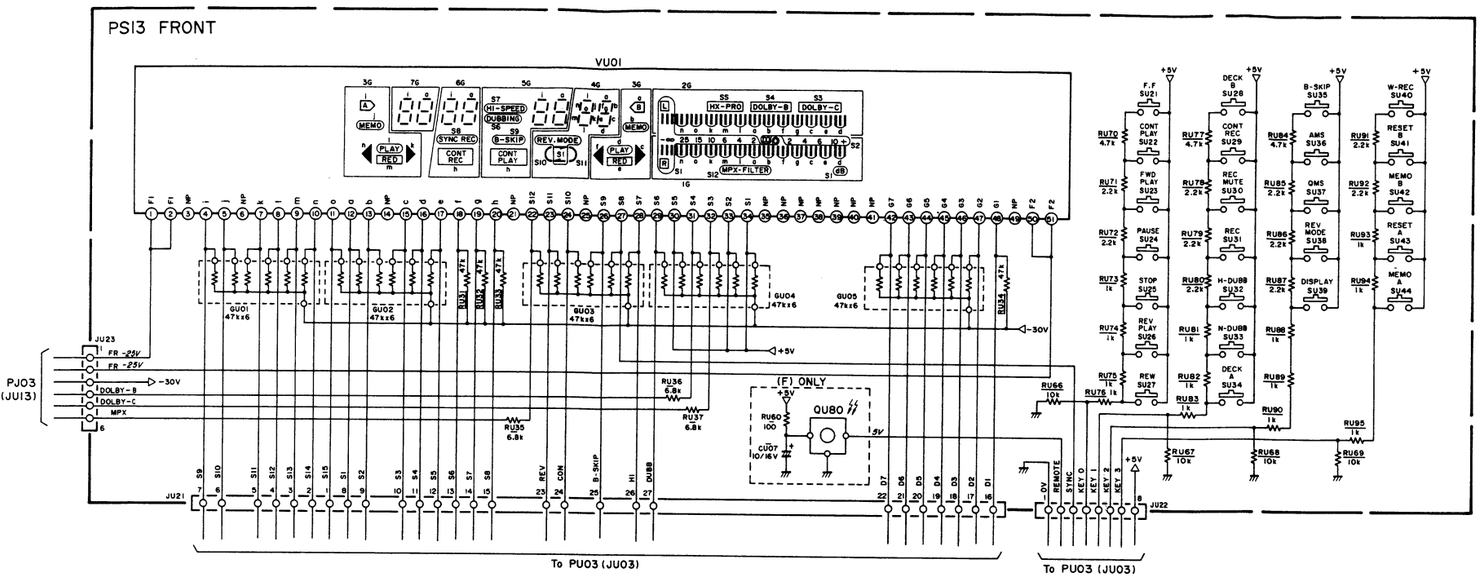
PU13

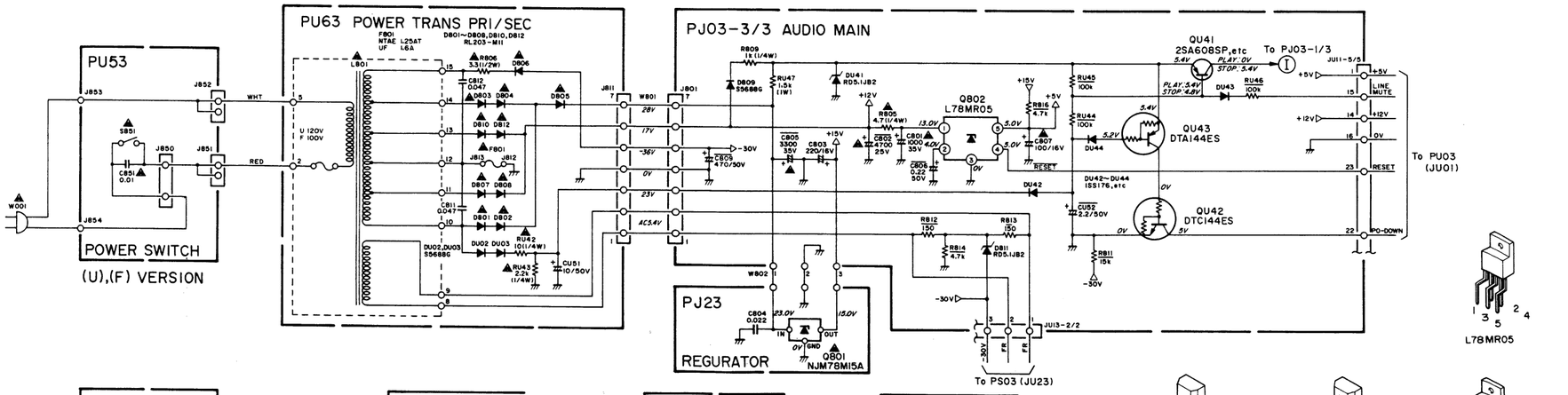




QM01,QM04,QM82,QM84
QQ01,QQ03,QU12~QU15

QM02,QQ02

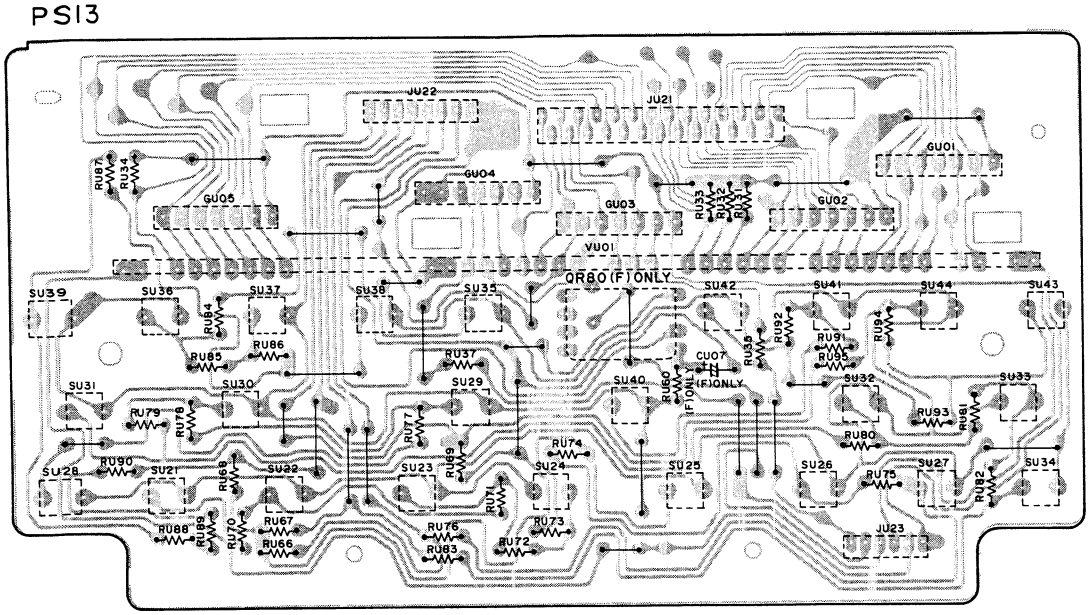




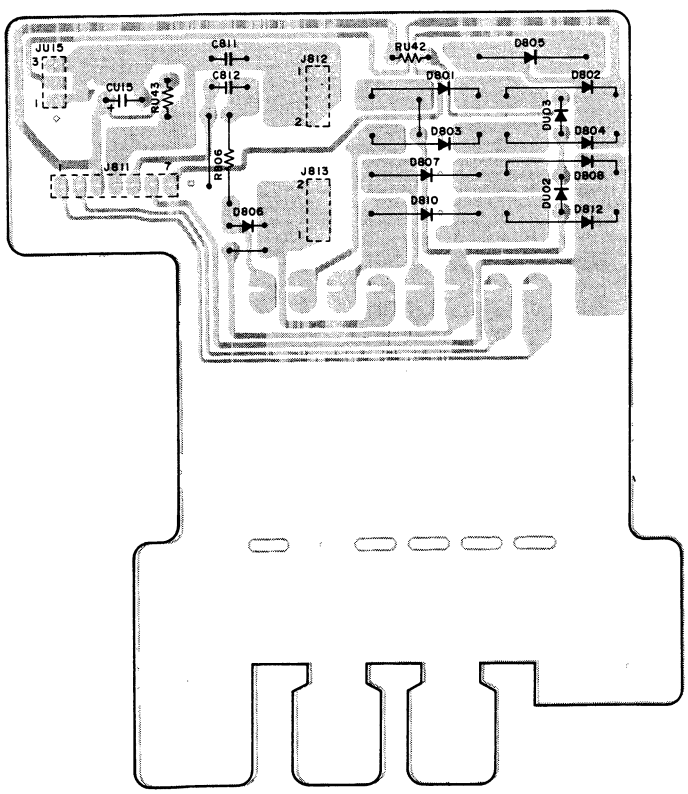
NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

QR80

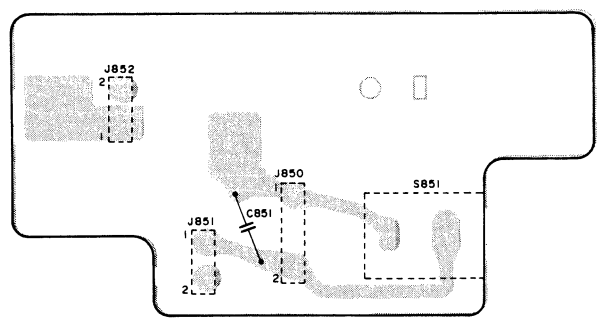
PS13



PU63

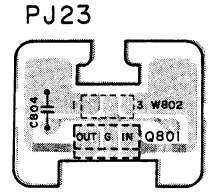


PU53



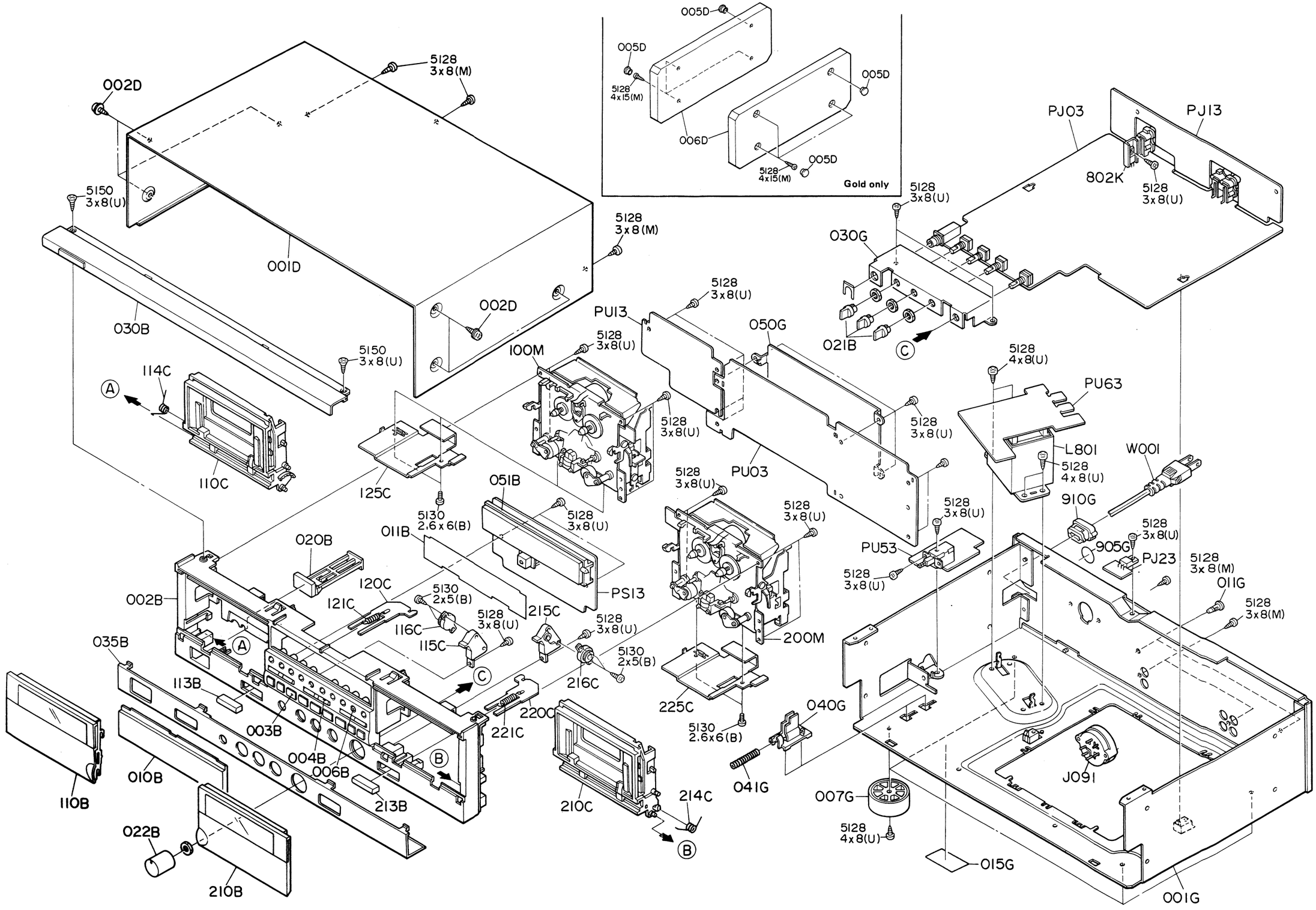
Q801

PJ23



6. EXPLODED VIEW AND PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
002B	4822 443 40887	Front Panel/02B/01B/07B/05B
	4822 443 40894	Front Panel/06B
003B	4822 410 60603	Button, Mecha/02B/01B/07B/05B
	4822 410 60623	Button, Mecha/06B
004B	4822 410 60619	Button, Rec Mode
006B	4822 410 60621	Button, Counter
010B	4822 450 61531	Window, FL/02B/01B/07B/05B
	4822 450 61538	Window, FL/06B
020B	4822 410 60622	Button, Power
021B	4822 413 31573	Knob, Timer/Dolby/Bal.
022B	4822 413 31551	Knob, Rec Level
030B	4822 454 20962	Escutcheon Assembly/02B/01B/07B/05B
	4822 454 20993	Escutcheon Assembly/06B
035B	4822 454 20961	Escutcheon/02B/01B/07B/05B
	4822 454 20992	Escutcheon/06B
051B	4822 403 53806	Holder, FL
052B	4822 454 12431	Sticker
110B	4822 443 62973	Cover Assembly, Cassette Door-A/02B/01B/07B/05B
	4822 443 62983	Cover Assembly, Cassette Door-A/06B
113B	4822 410 60618	Button, Eject
210B	4822 443 62974	Cover Assembly, Cassette Door-B/02B/01B/07B/05B
	4822 443 62984	Cover Assembly, Cassette Door-B/06B
213B	4822 410 60618	Button, Eject
110C	4822 691 20583	Holder Assembly, Cassette-A
114C	4822 492 70616	Spring, Door Open
116C	4822 466 92367	Dumper
121C	4822 492 70567	Spring
210C	4822 256 91556	Holder Assembly, Cassette-B
214C	4822 492 70167	Spring, Door Open
216C	4822 466 92367	Dumper
221C	4822 492 70567	Spring
002D	4822 501 11008	B.T. Screw (W/W) B4 x 8 (BLK)
007G	4822 462 41383	Leg/02B/01B/07B/05B
	4822 462 41198	Leg/06B
040G	4822 403 70005	Link, Power Switch
041G	4822 492 70568	Spring, Link
910G	4822 532 60948	Bushing, AC Cord
⚠ J091	4822 272 10227	Voltage Selector/01B
001T	4822 736 20571	User Manual/02B/01B/07B/05B
	4822 736 20588	User Manual/06B
J011	4822 267 31133	Jack, AC Adapter/01B


005D
005D
5128 4x15(M)
006D
005D
005D
5128 4x15(M)
Gold only
002D
5128 3x8(M)
5150 3x8(U)
001D
5128 3x8(M)
002D
030B
5150 3x8(U)
114C
A
110C
125C
5130 2.6x6(B)
051B
5128 3x8(U)
011B
020B
002B
120C
121C
5130 2x5(B)
116C
115C
5128 3x8(U)
215C
PS13
035B
113B
003B
004B
006B
213B
010B
110B
022B
210B
C
B
216C
220C
221C
210C
214C
100M
5128 3x8(U)
PU13
5128 3x8(U)
050G
5128 3x8(U)
PU03
5128 3x8(U)
200M
225C
5130 2.6x6(B)
040G
041G
PJ03
PJ13
802K
5128 3x8(U)
030G
021B
C
5128 4x8(U)
PU63
L801
5128 4x8(U)
W001
910G
905G
5128 3x8(U)
PJ23
5128 3x8(M)
011G
5128 3x8(M)
PU53
5128 3x8(U)
5128 3x8(U)
J091
007G
5128 4x8(U)
015G
001G

7. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking your Cassette Deck, the following instruments and materials are necessary.

- Audio Oscillator (AF OSC)
- Attenuator (600Ω)
- VTVM
- Oscilloscope
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Black Tapes (Completely erased with bulk eraser)
  AC224 (Normal)
  AC513 (CrO_2)
  AC-712 (Metal)

NOTE:
If any doubt is noted in a measured value, use new tape.

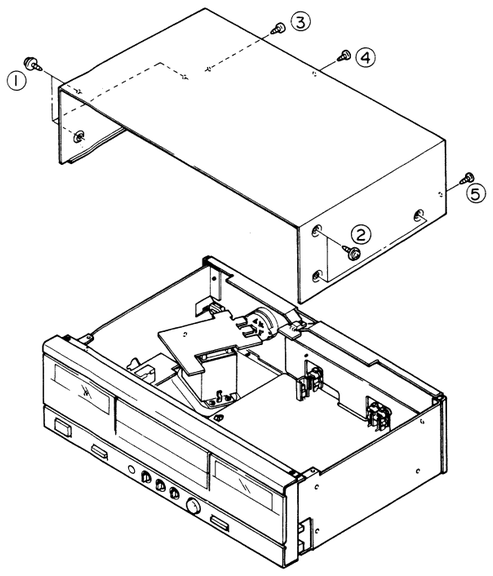
- Test Tape

TCC-112·MTT-111	Wow and Flutter, Tape Speed
TCC-120·MTT-212	Signal-to-Noise Ratio
TCC-130·MTT-150	Level Adjustment
TCC-161·MTT-256	Frequency Response (for Normal)
TCC-261·MTT-356	Frequency Response (for CrO_2 and Metal)
TCC-192·MTT-121	Cross Talk
TCC-194·MTT-141	Channel Separation
TCC-174A·MTT-255M (A-BEX)·(TEAC)	Azimuth adjustment

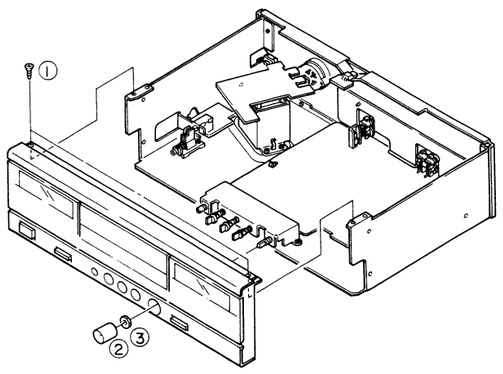
- Mirror cassette 12 μm padless
  TCC-902·MTT-902 Tape travel check
- Quick reverse sensitivity
  UD46(MAXELL)

8. DISASSEMBLY

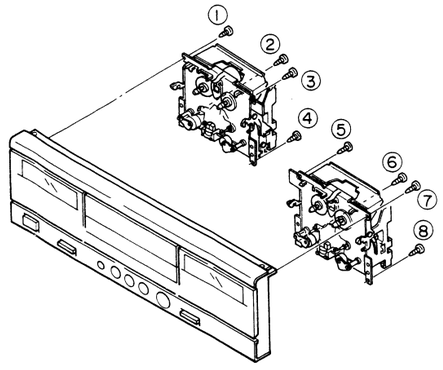
- **Removing the top cover.**
  Remove the 9 screws ①, ② and ③ ~ ⑤.



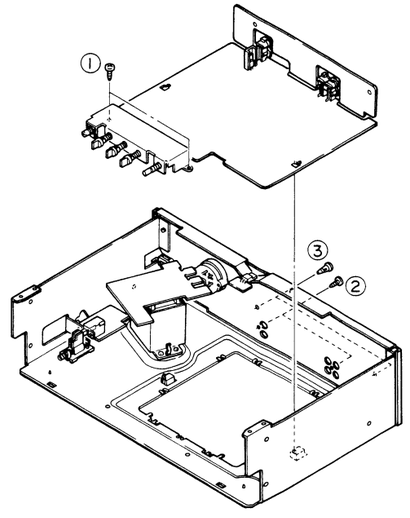
- **Removing the front panel**
  1) Remove the 2 screws ①.
  2) Remove the REC knob ② and nut ③.



- **Removing the mechanism**
  Remove the 8 screws ① ~ ⑧.



- **Removing the main P.W. board**
  1) Remove the 4 screws ①, ②.
  2) Remove the 2 spacer ③.

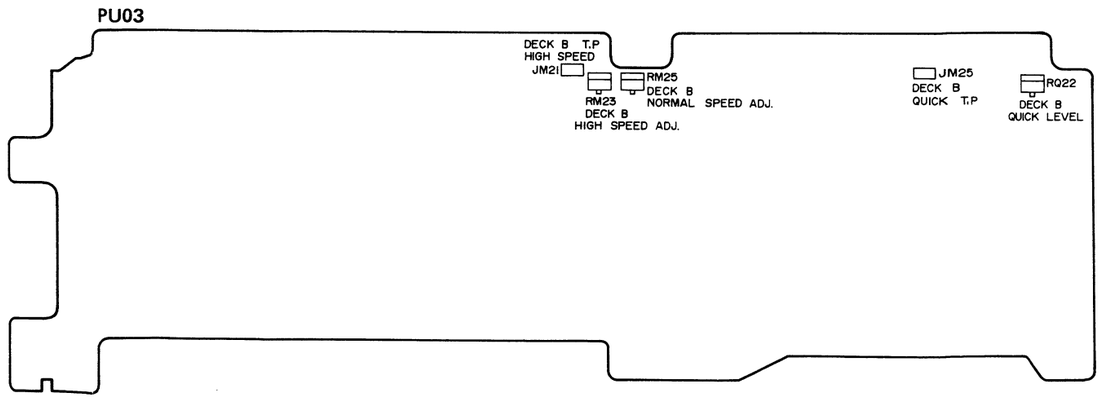


9. ELECTRICAL ADJUSTMENT

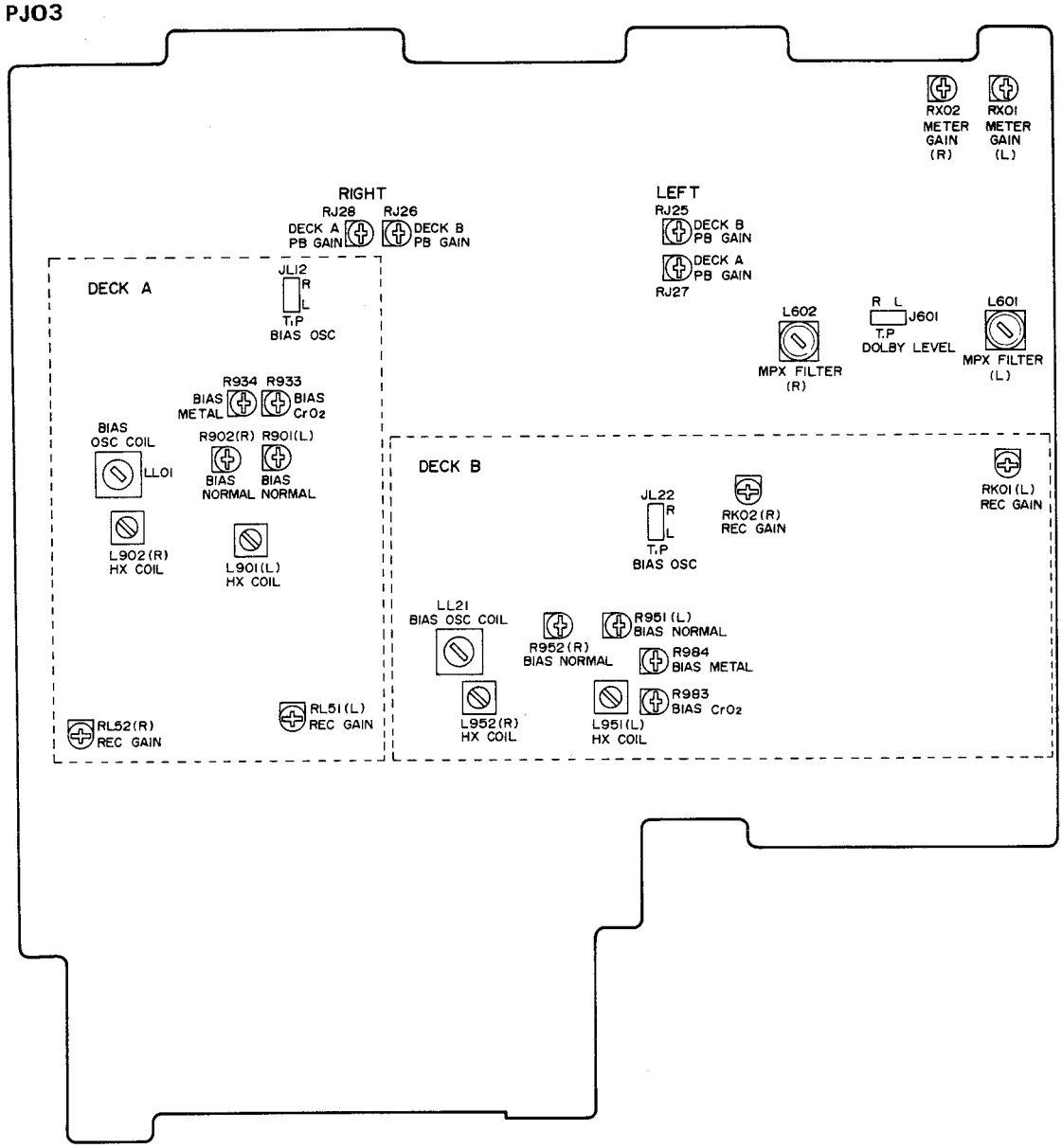
Precautions before Adjstment

1. Before playing the test tape back, thoroughly demagnetize the heads, capstan and similar metal parts using an eraser as the test tape-recorded tone is easily erased.
2. Do not place the test tape on any measuring instrument.
3. Do not put the test tape near a place where the eraser is used.
4. Method of Demagnetization: — Turn the eraser power switch on at a remote position far away from the heads. Bring the eraser close to the heads, capstan and other parts to be demagnetized, and move it up and down four or five times to demagnetize. Slowly separate the eraser far away from the parts, and turn the power switch off.
5. Tools to be used shall not be magnetized. It is recommended to demagnetize tools occasionally using a demagnetizer.
6. Do not turn semi-fixed resistor more than needed.
7. Do not apply locking bond excessively.

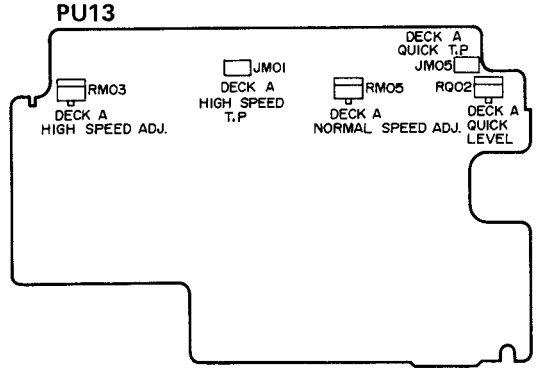
ADJUSTMENT POINT(Component Side)



PJ03


RX02
METER
GAIN
(R)
RX01
METER
GAIN
(L)
RIGHT
RJ28
DECK A
PB GAIN
RJ26
DECK B
PB GAIN
LEFT
RJ25
DECK B
PB GAIN
DECK A
PB GAIN
RJ27
DECK A
JL12
R
L
T.P
BIAS OSC
L602
MPX FILTER
(R)
R L
J601
T.P
DOLBY LEVEL
L601
MPX FILTER
(L)
R934 R933
BIAS
METAL
BIAS
CrO2
BIAS
OSC COIL
LL01
R902(R) R901(L)
BIAS
NORMAL
BIAS
NORMAL
L902(R)
HX COIL
L901(L)
HX COIL
DECK B
JL22
R
L
T.P
BIAS OSC
RK02(R)
REC GAIN
RK01(L)
REC GAIN
LL21
BIAS OSC COIL
R952(R)
BIAS NORMAL
R951(L)
BIAS NORMAL
R984
BIAS METAL
R983
BIAS CrO2
L952(R)
HX COIL
L951(L)
HX COIL
RL51(L)
REC GAIN
RL52(R)
REC GAIN

PU13


DECK A
QUICK T.P
JM05
JM01
DECK A
HIGH SPEED
T.P
RM03
DECK A
HIGH SPEED ADJ.
RM05
DECK A
NORMAL SPEED ADJ.
RQ02
DECK A
QUICK
LEVEL

ELECTRICAL MEASUREMENTS AND ADJUSTMENTS

General conditions

The following general conditions apply to the electrical measurements and adjustments, unless explicitly stated otherwise.

- Ambient temperature 20 to 25°C
- Dolby switch SS01 off
- The voltages have been measured relative to earth.
- The adjustment and measurement should be done for Deck A, as well as Deck B.

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Value
Playback speed	TCC-112 MTT-111	PLAY Deck A High speed *a		JW01 (Line out)	Frequency Counter	RM03	5980 Hz ≀ 6020 Hz
		PLAY Deck A Normal speed				RM05	2990 Hz ≀ 3010 Hz
		PLAY Deck B High speed *a				RM23	5980 Hz ≀ 6020 Hz
		PLAY Deck B Normal speed				RM25	2990 Hz ≀ 3010 Hz
Head azimuth	TCC-174A MTT-255M	PLAY		JW01 (Line out)	VTVM	Head azimuth adjust screw *b	Max.
Playback output	TCC-130 MTT-150	PLAY		J601	mV-meter	Deck A RJ27 (L) RJ28 (R) Deck B RJ25 (L) RJ26 (R)	387.5 mV
Recording playback level	AC224	REC+PLAY	1 kHz 100 mV JW01 (Line in)	J601	mV-meter	RV01 RV02	387.5 mV
		PLAY		J601	mV-meter	Deck A RL51 (L) RL52 (R) Deck B RK01 (L) RK02 (R)	387.5 mV
	AC-712 side 2 Metal cassette *c						
Recording playback frequency response	AC224 Normal cassette	REC+PLAY DOLBY-C	1 kHz 100 mV JW01 (Line in)	J601	mV-meter	RV01 RV02	387.5 mV
			1 kHz, 10 kHz 100 mV–25 dB	–	–	–	–
		PLAY DOLBY-C		JW01 (Line out)	mV-meter	Deck A R901 (L) R902 (R) Deck B R951 (L) R952 (R)	Playback level differences of 1 kHz and 125k Hz is within 0±1.0 dB *d, e
		DOLBY-OFF *f					
		DOLBY-B *g					

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Value
Recording playback frequency response	AC513 CrO_2 cassette	REC+PLAY DOLBY-C	1 kHz 100 mV JW01 (Line in)	J601	mV-meter	RV01 RV02	387.5 mV
			1 kHz, 10 kHz 100 mV–25 dB	–	–	–	–
		PLAY DOLBY-C		JW01 (Line out)	mV-meter	Deck A R933 Deck B R983	Playback level differences of 1 kHz and 12.5kHz is within 0±1.0 dB *e
		DOLBY-OFF *f					
		DOLBY-B *g					
	Metal cassette	REC+PLAY DOLBY-C	1 kHz 100 mV JW01 (Line in)	J601	mV-meter	RV01 RV02	387.5 mV
			1 kHz, 10 kHz 100 mV–25 dB	–	–	–	–
		PLAY DOLBY-C		JW01 (Line out)	mV-meter	Deck A R934 Deck B R984	Playback level differences of 1 kHz and 12.5kHz is within 0±1.0 dB *e
		DOLBY-OFF *f					
		DOLBY-B *g					
Quick reverse sensitivity	A portion of leader tape of the MAXELL UD46. *h	PLAY		Deck A JM05 Deck B JM25	mV-meter	Deck A RQ02 Deck B RQ22	1.1–1.15V

*a Prior to adjustment, please short-circuit the both terminals of JM01 (Deck A), JM21 (Deck B), then, it will be a high speed mode (9.5 cm/sec.).

*b
- Remove the cassette case and retainer as per the figure and adjust the head azimuth.
- If the peak level reads of the right and left channels are different, set the lower channel to maximum.
- Be sure to adjust with the same section on the same side of the tape of both Deck A and Deck B.
- After adjustment, be sure to lock the screws with bond.

*c Record/review the chromium cassette and metal cassette, then confirm the difference of level at recording and reviewing to be within 1 dB respectively.

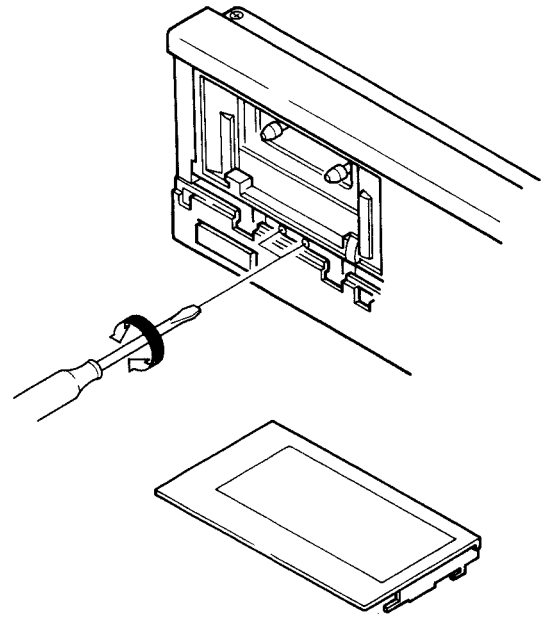
*d When 1 kHz level difference in DOLBY C mode is 1 dB or more compared to the monitor level, adjust RL51 (L), RL52(R) [Deck B RK01(L), RK02(R) for the recording level adjustment previously, so that the level difference is within 1 dB.

*e After adjustment, record 1 kHz, 10 kHz and 12.5 kHz signals, and check that the playback level differences of these frequencies are as given on the right hand.

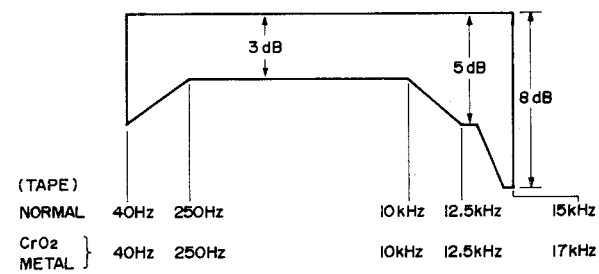
*f
- Set the DOLBY switch to OFF, record 1 kHz, 10 kHz and 12.5 kHz signals, and check that the playback level differences of these frequencies are as given on the right hand.
- With the DOLBY switch OFF, check that the L/R channel balance for 10 kHz is less than 3 dB.

*g Set the DOLBY switch to B, record 1 kHz, 10 kHz and 12.5 kHz signals, and check that the playback level differences of these frequencies are as given on the right hand.

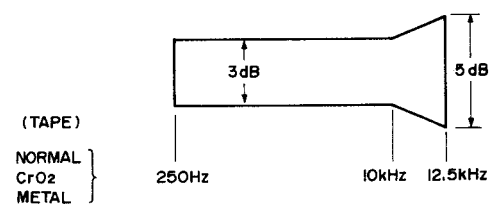
*h Adjustment should be done with the MAXELL UD46 leader tape or other tapes with the similar reflection rate.



DOLBY-OFF (4.75 cm/sec)



DOLBY-B, -C (4.75 cm/sec)



10. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05 ---140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05 ---160, Carbon film fixed resistor, ±5%, 1/6W
① — Resistance value

Examples
① Resistance value

0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
1Ω...010	100Ω...101	10kΩ...103	1MkΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MkΩ...475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C***: CERAMIC CAP.
(1) DD1 ----370, Ceramic condenser
①② Disc type
Temp. coeff. P350 ~ N1000, 50V
② — Capacity value
① — Tolerance

Examples
① Tolerance (Capacity deviation)
±0.25pF...0
±0.5pF...1
±5%...5
* Tolerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF...±0.25pF
6pF ~ 10pF...±0.5pF
12pF ~ 560pF...±5%
② Capacity value

0.5pF...005	3pF...030	100pF...101
1pF...010	10pF...100	220pF...221
1.5pF...015	47pF...470	560pF...561

C***: CERAMIC CAP.
(1) DK16 ---300, High dielectric constant ceramic condenser
① Disc type
Temp. chara. 2B4, 50V
② — Capacity value

Example
② Capacity value

100pF...101	1000pF...102	10000pF...103
470pF...471	2200pF...222	

C***: ELECTROLY CAP. (⧺), FILM CAP. (⧻)
(1) EA ------10, Electrolytic condenser
①② One-way lead type, Tolerance ±20%
② — Dielectric strength
① — Capacity value

Examples
① Capacity value

0.1μF...104	4.7μF...475	100μF...107
0.33μF...334	10μF...106	330μF...337
1μF...105	22μF...226	1100μF...108
		2200μF...228

② Working voltage

6.3V...006	25V...025	
10V...010	35V...035	
16V...016	50V...050	

(2) DF15 ---350, Plastic film condenser
① One-way type, Mylar ±5% 50V
① — Capacity value

Examples
① Capacity value

0.001μF (1000pF)...102	0.1μF...104
0.0018μF.....182	0.56μF...564
0.01μF.....103	1μF...105
0.015μF.....153	

REF. DESIG.	PART NO.	DESCRIPTION		
		PJ03-AUDIO MAIN CIRCUIT BOARD		
		PJ03-CAPACITORS		
CJ05 ~ CJ08		Ceramic	330pF	±10%
CJ11	4822 124 90364	Elect	220μF	16V
CJ12	4822 124 90364	Elect	220μF	16V
CJ15	4822 124 22274	Elect	4.7μF	50V
CJ16	4822 124 22274	Elect	4.7μF	50V
CJ18	4822 124 90354	Elect	100μF	16V
CJ19	4822 124 90354	Elect	100μF	16V
CJ21	4822 122 40491	Ceramic	0.022μF	+80% −20%
CJ22	4822 122 40491	Ceramic	0.022μF	+80% −20%
CJ25	4822 122 40491	Ceramic	0.022μF	+80% −20%
CK01 ~ CK04	4822 124 22274	Elect	4.7μF	50V
CK05	4822 124 90354	Elect	100μF	16V
CK06	4822 124 90354	Elect	100μF	16V
CK07	4822 126 10734	Ceramic	100pF	±10%
CK08	4822 126 10734	Ceramic	100pF	±10%
CK09	4822 122 40522	Ceramic	220pF	±10%
CK10	4822 122 40522	Ceramic	220pF	±10%
CK13	4822 122 40491	Ceramic	0.022μF	+80% −20%
CK14	4822 124 90364	Elect	220μF	16V
CK15	4822 122 40522	Ceramic	220pF	±10%
CK16	4822 122 40522	Ceramic	220pF	±10%
CK17	4822 124 90364	Elect	220μF	16V
CK51 ~ CK54	4822 124 22274	Elect	4.7μF	50V
CK55	4822 124 90354	Elect	100μF	16V
CK56	4822 124 90354	Elect	100μF	16V
CK57	4822 126 10734	Ceramic	100pF	±10%
CK58	4822 126 10734	Ceramic	100pF	±10%
CK59	4822 122 40522	Ceramic	220pF	±10%
CK60	4822 122 40522	Ceramic	220pF	±10%
CK63	4822 122 40491	Ceramic	0.022μF	+80% −20%
CK64	4822 124 90364	Elect	220μF	16V
CK65	4822 122 40522	Ceramic	220pF	±10%
CK66	4822 122 40522	Ceramic	220pF	±10%
CL03	4822 124 22571	Elect	10μF	50V
CL04		Film	0.012μF	±5%
CL23	4822 124 22571	Elect	10μF	50V
CL24		Film	0.012μF	±5%
CR01	4822 122 40491	Ceramic	0.022μF	+80% −20%
CS01 ~ CS05	4822 122 40491	Ceramic	0.022μF	+80% −20%
CW01	4822 122 40491	Ceramic	0.022μF	+80% −20%
CW11	4822 126 10409	Ceramic	560pF	±10%
CW12	4822 126 10409	Ceramic	560pF	±10%
CW15	4822 126 10409	Ceramic	560pF	±10%
CW16	4822 126 10409	Ceramic	560pF	±10%
C601 ~ C604	4822 124 22274	Elect	4.7μF	50V
C609		Elect	0.56μF	50V
C610		Elect	0.56μF	50V
C613 ~ C616	4822 124 22274	Elect	4.7μF	50V
C621	4822 124 90354	Elect	100μF	16V
C622	4822 124 90354	Elect	100μF	16V

REF. DESIG.	PART NO.	DESCRIPTION
C631	4822 122 40491	Ceramic 0.022μF +80% −20%
C632	4822 124 22571	Elect 10μF 50V
C635	4822 124 22274	Elect 4.7μF 50V
C636	4822 124 22571	Elect 10μF 50V
C637		Ceramic 330pF ±10%
C638		Ceramic 330pF ±10%
▲ C801	4822 124 90356	Elect 1000μF 35V
C803	4822 124 90364	Elect 220μF 16V
▲ C807	4822 124 90354	Elect 100μF 16V
C909	4822 126 10734	Ceramic 100pF ±10%
C910	4822 126 10734	Ceramic 100pF ±10%
C911	4822 122 40491	Ceramic 0.022μF +80% −20%
C912	4822 122 40491	Ceramic 0.022μF +80% −20%
C913		Film 560pF ±5%
C914		Film 560pF ±5%
C931	4822 122 40491	Ceramic 0.022μF +80% −20%
C932	4822 122 40491	Ceramic 0.022μF +80% −20%
C933	4822 124 22571	Elect 10μF 50V
C934	4822 122 32185	Ceramic 10pF ±0.5pF
C941	4822 122 40491	Ceramic 0.022μF +80% −20%
C959	4822 126 10734	Ceramic 100pF ±10%
C960	4822 126 10734	Ceramic 100pF ±10%
C961	4822 122 40491	Ceramic 0.022μF +80% −20%
C962	4822 122 40491	Ceramic 0.022μF +80% −20%
C963		Film 560pF ±5%
C964		Film 560pF ±5%
C981	4822 122 40491	Ceramic 0.022μF +80% −20%
C982	4822 122 40491	Ceramic 0.022μF +80% −20%
C983	4822 124 22571	Elect 10μF 50V
C984	4822 122 32185	Ceramic 10pF ±0.5pF
C991	4822 122 40491	Ceramic 0.022μF +80% −20%
		PJ03-RESISTORS
RJ25 ≀ RJ28	4822 100 11351	10KΩ, Trimming
▲ RJ38	4822 113 90119	22Ω ±2% ¼W, Fuse
RK01	4822 100 11372	47KΩ, Trimming
RK02	4822 100 11372	47KΩ, Trimming
▲ RK92	4822 115 90166	10Ω ±2% ¼W, Fuse
RL02	4822 116 53628	3.3Ω ±5% ¼W
▲ RL12	4822 113 90119	22Ω ±2% ¼W, Fuse
RL22	4822 116 53628	3.3Ω ±5% ¼W
▲ RL32	4822 113 90119	22Ω ±2% ¼W, Fuse
RL51	4822 100 11372	47KΩ, Trimming
RL52	4822 100 11372	47KΩ, Trimming
▲ RS01	4822 111 90731	47Ω ±2% ¼W, Fuse
RV01	4822 101 30709	100KΩ(A)x2, Variable; Rec Level
RV02	4822 101 30708	250KΩ(W), Variable; Rec Balance
RU47	4822 116 60442	1.5KΩ ±5% 1W
RX01	4822 100 11372	47KΩ, Trimming
RX02	4822 100 11372	47KΩ, Trimming
R805	4822 111 90967	4.7Ω ±5% ¼W, Fuse
R806	4822 116 60311	3.3Ω ±5% ½W, Fusible
R809	4822 116 52893	1KΩ ±5% ¼W
R901	4822 100 11351	10KΩ, Trimming
R902	4822 100 11351	10KΩ, Trimming
R933	4822 100 11372	47KΩ, Trimming
R934	4822 100 11471	100KΩ, Trimming
R951	4822 100 11351	10KΩ, Trimming
R952	4822 100 11351	10KΩ, Trimming
R983	4822 100 11372	47KΩ, Trimming
R984	4822 100 11471	100KΩ, Trimming

REF. DESIG.	PART NO.	DESCRIPTION
		PJ03-SEMICONDUCTORS
DK01	4822 130 80839	Diode S5688G
DK02	4822 130 80839	Diode S5688G
DK03	4822 130 80318	Zener RD6.8JB2/MTZJ6.8C
DS01 ≀ DS06	4822 130 33305	Diode 1SS176, etc.
DS41 ≀ DS44	4822 130 33305	Diode 1SS176, etc.
DS51 ≀ DS55	4822 130 33305	Diode 1SS176, etc.
DU41	4822 130 80317	Zener RD7.5JB2/MTZJ7.5C
DU42	4822 130 33305	Diode 1SS176, etc.
DU43	4822 130 33305	Diode 1SS176, etc.
DU44	4822 130 33305	Diode 1SS176, etc.
DU45	4822 130 33948	Zener RD5.6JB2/MTZJ5.6B
D631 ≀ D637	4822 130 33305	Diode 1SS176, etc.
D809	4822 130 80839	Diode S5688G
D811	4822 130 80317	Zener RD5.1JB2/MTZJ5.1B
D901	4822 130 33305	Diode 1SS176, etc.
D902	4822 130 33305	Diode 1SS176, etc.
D951	4822 130 33305	Diode 1SS176, etc.
D952	4822 130 33305	Diode 1SS176, etc.
QJ01	4822 209 62249	IC CXA1115SP
QJ02	4822 209 61667	IC μPC1330HA
QJ03	4822 209 61667	IC μPC1330HA
QJ11 ≀ QJ15	4822 130 61189	Transistor, Digital DTC114TS
QK01	4822 209 62252	IC CXA1198AP
QK02	4822 209 62253	IC 4051B
▲ QK03	4822 209 80655	IC NJM78L08A
QK11	4822 130 61723	Transistor, Digital DTC323TS
QK12	4822 130 61723	Transistor, Digital DTC323TS
QK13	4822 130 61189	Transistor, Digital DTC114TS
QK14	4822 130 61189	Transistor, Digital DTC114TS
QK15	4822 130 61187	Transistor, Digital DTA144TS
QK51	4822 209 62252	IC CXA1198AP
QK61	4822 130 61723	Transistor, Digital DTC323TS
QK62	4822 130 61723	Transistor, Digital DTC323TS
QK63	4822 130 61189	Transistor, Digital DTC114TS
QK64	4822 130 61189	Transistor, Digital DTC114TS
QK65	4822 130 61189	Transistor, Digital DTC114TS
QK66	4822 130 61187	Transistor, Digital DTA144TS
QK67	4822 130 61189	Transistor, Digital DTC114TS
QK68	4822 130 61189	Transistor, Digital DTC114TS
QL01	4822 130 61886	Transistor 2SD1292(Q, R)
QL11	4822 130 61725	Transistor 2SD2010
QL12	4822 130 60588	Transistor, Digital DTC114ES
QL21	4822 130 61886	Transistor 2SD1292(Q, R)
QL31	4822 130 61725	Transistor 2SD2010
QL32	4822 130 60588	Transistor, Digital DTC114ES
QR01	4822 130 42594	Transistor, Digital DTC144ES
QS41 ≀ QS44	4822 130 42682	Transistor, Digital DTA144ES
QS51	4822 130 42682	Transistor, Digital DTA144ES
QS52	4822 130 42682	Transistor, Digital DTA144ES

REF. DESIG.	PART NO.	DESCRIPTION
QW11	4822 130 61723	Transistor, Digital DTC323TS
QW12	4822 130 61723	Transistor, Digital DTC323TS
QU41	4822 130 42715	Transistor 2SA608SP, etc.
QU42	4822 130 42594	Transistor, Digital DTC144ES
QU43	4822 130 42682	Transistor, Digital DTA144ES
Q601	4822 209 62251	IC CXA1330
Q631	4822 130 61189	Transistor, Digital DTC114TS
Q632	4822 130 61189	Transistor, Digital DTC114TS
Q633	4822 130 42594	Transistor, Digital DTC144ES
Q634	4822 130 42594	Transistor, Digital DTC144ES
Q802	4822 209 70385	IC L78MR05
Q901	4822 209 72874	IC μPC1297CA
Q951	4822 209 72874	IC μPC1297CA
		PJ03-MISCELLANEOUS
JG01	4822 267 31126	Jack, Headphone
JR01	4822 266 30274	Terminal, 2P; RCA
JW01	4822 265 30397	Terminal, 4P; RCA
LK01	4822 157 53521	Choke Coil 22mH
LK02	4822 157 53521	Choke Coil 22mH
LK51	4822 157 53521	Choke Coil 22mH
LK52	4822 157 53521	Choke Coil 22mH
LL01	4822 148 81074	OSC Transformer 105KHz
LL11	4822 152 20622	Choke Coil 2.2mH
LL21	4822 148 81074	OSC Transformer 105KHz
LL31	4822 152 20622	Choke Coil 2.2mH
L601	4822 157 52461	M.P.X. Coil
L602	4822 157 52461	M.P.X. Coil
L603	4822 157 62214	M.P.X. Coil 30-105KHz
L604	4822 157 62214	M.P.X. Coil 30-105KHz
L901	4822 157 60436	OSC Transformer 105KHz
L902	4822 157 60436	OSC Transformer 105KHz
L951	4822 157 60436	OSC Transformer 105KHz
L952	4822 157 60436	OSC Transformer 105KHz
SS01	4822 273 10209	Rotary Switch, NR/MPX
SS02	4822 273 10208	Rotary Switch, Timer
		PJ13-AUDIO SUB CIRCUIT BOARD
		PJ13-CAPACITORS
CB02		Elect 0.56μF 50V
CB03	4822 122 40491	Ceramic 0.022μF +80% −20%
CB04	4822 122 40491	Ceramic 0.022μF +80% −20%
CB12	4822 122 40491	Ceramic 0.022μF +80% −20%
CG05	4822 124 90354	Elect 100μF 16V
CG07	4822 122 40491	Ceramic 0.022μF +80% −20%
CX01	4822 124 22571	Elect 10μF 50V
CX02	4822 124 22571	Elect 10μF 50V
CX05	4822 124 90354	Elect 100μF 16V
CX06	4822 124 90354	Elect 100μF 16V
CX07	4822 122 40491	Ceramic 0.022μF +80% −20%
CX08	4822 122 40491	Ceramic 0.022μF +80% −20%

REF. DESIG.	PART NO.	DESCRIPTION
		PJ13-RESISTORS
RB07	5322 116 53285	180Ω ±5% ½W
▲RG12	4822 111 90731	47Ω ±2% ¼W, Fuse
RX07	4822 116 53423	470Ω ±5% ¼W
RX08	4822 116 60442	1.5KΩ ±5% 1W
		PJ13-SEMICONDUCTORS
DB01	4822 130 80272	Zener RD7.5JB2/MTZJ7.5C
DX01 ~ DX04	4822 130 33305	Diode 1SS176, etc.
DX05	4822 130 80272	Zener RD7.5JB2/MTZJ7.5C
DX06	4822 130 80272	Zener RD7.5JB2/MTZJ7.5C
DX07	4822 130 33305	Diode 1SS176, etc.
QB01	4822 209 83706	IC BA335PK
QB02	4822 130 61189	Transistor, Digital DTC114TS
QB04	4822 130 61189	Transistor, Digital DTC114TS
QB05	4822 130 42594	Transistor, Digital DTC144ES
QB06	4822 130 61189	Transistor, Digital DTC114TS
QG01	4822 209 61187	IC BA15218
QG02	4822 130 43191	Transistor 2SC1741(Q, R)
QX01	4822 209 61187	IC BA15218
QX11	4822 130 61189	Transistor, Digital DTC114TS
QX12	4822 130 61189	Transistor, Digital DTC114TS
		PJ23-15V REGURATOR CIRCUIT BOARD
C804	4822 122 40491	Ceramic Cap. 0.022μF +80% −20%
▲Q801	4822 209 82829	IC NJM78M15A
		PS13-FRONT CIRCUIT BOARD
QU01 ~ GU05	4822 111 91204	Resistor Array 47KΩx6
SU21 ~ SU44	4822 276 12455	Push Switch, Tact
VU01	4822 130 90822	Display Unit
		PU03-LOGIC MAIN CIRCUIT BOARD
		PU03-CAPACITORS
CM71	4822 122 40491	Ceramic 0.022μF +80% −20%
CM72	4822 122 40491	Ceramic 0.022μF +80% −20%
CM85	4822 122 32486	Ceramic 0.01μF +80% −20%
CM86	4822 122 32486	Ceramic 0.01μF +80% −20%
CM87	4822 122 32486	Ceramic 0.01μF +80% −20%
CU03	4822 122 32486	Ceramic 0.01μF +80% −20%
CU04	4822 122 32486	Ceramic 0.01μF +80% −20%
CU06	4822 122 40617	Ceramic 0.1μF +80% −20%
CU08	4822 122 40617	Ceramic 0.1μF +80% −20

REF. DESIG.	PART NO.	DESCRIPTION
		PU03-RESISTORS
RM23	4822 100 11235	4.7KΩ, Trimming
RM25	4822 100 20537	10KΩ, Trimming
RQ22	4822 101 30307	2.2KΩ, Trimming
		PU03-SEMICONDUCTORS
DM85	4822 130 31554	Zener MTZJ4.3B
DM86	4822 130 80318	Zener RD6.8JB2/MTZJ6.8C
DM87	4822 130 33305	Diode 1SS176, etc.
DM88	4822 130 33305	Diode 1SS176, etc.
DQ21	4822 130 80839	Diode S5688G
DQ22	4822 130 80839	Diode S5688G
DU51 ~ DU55	4822 130 80091	Zener RD12JB2/MTZJ12C
DU57	4822 130 33305	Diode 1SS176, etc.
DU58	4822 130 80318	Zener RD6.8JB2/MTZJ6.8C
QM21	4822 130 42715	Transistor 2SA608SP, etc.
QM22	4822 130 61725	Transistor 2SD2010
QM23	4822 130 61189	Transistor, Digital DTC114TS
QM24	4822 130 61189	Transistor, Digital DTC114TS
QM85	4822 209 61188	IC BA6219
QM86	4822 130 61189	Transistor, Digital DTC114TS
QQ21	4822 130 61189	Transistor, Digital DTC114TS
QQ22	4822 130 61725	Transistor 2SD2010
QQ23	4822 130 61189	Transistor, Digital DTC114TS
QU01	4822 209 62254	Microprocessor MB88515
QU11	4822 209 62255	Microprocessor MB88505
QU16	4822 130 42715	Transistor 2SA608SP, etc.
QU22 ~ QU25	4822 130 61189	Transistor, Digital DTC114TS
QU51 ~ QU55	4822 130 61227	Transistor, Digital DTA114ES
QU56	4822 130 42682	Transistor, Digital DTA144ES
QU57	4822 130 42682	Transistor, Digital DTA144ES
QU58 ~ QU62	4822 130 61227	Transistor, Digital DTA114ES
QU64	4822 130 61227	Transistor, Digital DTA114ES
QU65	4822 130 61189	Transistor, Digital DTC114TS
		PU03-MISCELLANEOUS
XU01	4822 242 72596	Ceramic Vibrator 6.00MHz
		PU13-MECHA-A DRIVE CIRCUIT BOARD
		PU13-CAPACITORS
CM61	4822 122 40491	Ceramic 0.022μF +80% −20%
CM62	4822 122 40491	Ceramic 0.022μF +80% −20%
CM81	4822 122 32486	Ceramic 0.01μF +80% −20%
CM82	4822 122 32486	Ceramic 0.01μF +80% −20%
CM83	4822 122 32486	Ceramic 0.01μF +80% −20%
		PU13-RESISTORS
RM03	4822 100 11235	4.7KΩ, Trimming
RM05	4822 100 20537	10KΩ, Trimming
RQ02	4822 101 30307	2.2KΩ, Trimming
		PU13-SEMICONDUCTORS
DM81	4822 130 80318	Zener RD6.8JB2/MTZJ6.8C
DM82	4822 130 31554	Zener MTZJ4.3B
DQ01	4822 130 80839	Diode S5688G
DQ02	4822 130 80839	Diode S5688G

REF. DESIG.	PART NO.	DESCRIPTION
QM01	4822 130 42715	Transistor 2SA608SP, etc.
QM02	4822 130 61725	Transistor 2SD2010
QM03	4822 130 61189	Transistor, Digital DTC114TS
QM04	4822 130 61189	Transistor, Digital DTC114TS
QM81	4822 209 61188	IC BA6219
QM82	4822 130 61189	Transistor, Digital DTC114TS
QM83	4822 130 61227	Transistor, Digital DTA114ES
QQ01	4822 130 61189	Transistor, Digital DTC114TS
QQ02	4822 130 61725	Transistor 2SD2010
QQ03	4822 130 61189	Transistor, Digital DTC114TS
QU12	4822 130 61189	Transistor, Digital DTC114TS
QU13	4822 130 61189	Transistor, Digital DTC114TS
QU14	4822 130 61189	Transistor, Digital DTC114TS
QU15	4822 130 61189	Transistor, Digital DTC114TS
		PU53-POWER SWITCH CIRCUIT BOARD
⚠C851	4822 122 33276	Ceramic Cap. 0.01μF ±20%
⚠S851	4822 276 11645	Push Switch, Power
		PU63-POWER TRANSF. PRI/SEC CIRCUIT BOARD
		PU63-CAPACITORS
CU51	4822 124 22571	Elect 10μF 50V
C811	4822 122 40491	Ceramic 0.022μF +80% -20%
C812	4822 122 40491	Ceramic 0.022μF +80% -20%
		PU63-RESISTORS
⚠RU42	4822 115 90166	10Ω ±2% ¼W, Fuse
⚠RU43	4822 116 81315	2.2KΩ ±2% ¼W, Fuse
⚠R806	4822 116 60311	3.3Ω ±5% ½W, Fusible
		PU63-SEMICONDUCTORS
DU02	4822 130 80839	Diode S5688G
DU03	4822 130 80839	Diode S5688G
⚠D801 ~ ⚠D805	4822 130 32968	Diode RL203-M11
⚠D806	4822 130 80839	Diode S5688G
⚠D807	4822 130 32968	Diode RL203-M11
⚠D808	4822 130 32968	Diode RL203-M11
⚠D810	4822 130 32968	Diode RL203-M11
⚠D812	4822 130 32968	Diode RL203-M11
		PU63-MISCELLANEOUS
⚠F801	4822 253 20145	Fuse T1.25A 250V/02B/01B/07B/05B
	4822 253 40196	Fuse 1.6A 250V/06B
⚠L801	4822 146 21511	Power Transformer/01B
	4822 146 21513	Power Transformer/02B/07B/05B
	4822 146 21514	Power Transformer/06B

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound.
Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

MARANTZ INTERNATIONAL
Vestdijk 9
5600 MD Eindhoven
The Netherlands
Phone: +31/40.758290
Telefax: +31/40.75.82.99
Telex: 35000 PHTC NL routing IND NLMTFAT

ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified.
The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

PARTS ORDERING

Parts may be ordered at the following addresses:

AUSTRIA
HORNYPHON
Vertriebsgesellschaft GmbH
Wienerbergstrasse 1
A 1101 Wien
Austria
Telex: 132.332

BELGIUM
SVD DIVISION MARANTZ
Industrialaan 1
1720 Groot-Bijgaarden
Belgium
Telex: 24466

CHILE
MARANTZ
DIVISION OF PHILIPS S.A.
AV. Santa Maria, 0760
Casilla 2687
Santiago
Telex: 240.239

DENMARK
MARANTZ
DIVISION OF PHILIPS
SERVICE A/S
Prags Boulevard 80
Postbox 1919
DK-2300 København S
Denmark
Telex: 31201

FINLAND
MARANTZ
DIVISION OF OY PHILIPS Ab
Kaivokatu 8
00100 Helsinki
Finland
Telex: 124811

FRANCE
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

GERMANY
MARANTZ GERMANY GmbH
Alexanderstrasse 1
2000 Hamburg
Germany

THE NETHERLANDS
Elpro Marantz
Wint Hontlaan 28
3526 KV Utrecht
The Netherlands
Telex: 4748

NORWAY
MARANTZ
DIVISION OF PHILIPS A/S
Sandstuveien 40
0680 Oslo 6
Norway
Telex: 72640

GREAT BRITAIN
MARANTZ AUDIO U.K. Ltd
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 OLW
Great Britain
Telex: 935196

GREECE
SHERTON ELECTRONICS S.A.
P.O.Box 21025
Hippocratus Street 188
Athens 11471
Greece
Telex: 216.795

JAPAN
MARANTZ JAPAN, Inc.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan

KUWAIT
AL ALAMIAH ELECTRONICS
Ussama Building
Fahd al Saleem Street
P.O.Box 23781
Safat-Kuwait
Telex: 22694

ITALY
MARANTZ ITALIANA S.P.A.
Via Chiese, 74
20126 Milano
Italy

SAUDI ARABIA
AL ALAMIAH ELECTRONICS
P.O.Box 5954
University Street
Riyadh 11432
Saudi Arabia
Telex: 401530

SOUTH AFRICA
MARANTZ
DIVISION OF PHILIPS S.A.
Main Road Martindale
P.O. Box. 58088
Newville 21114
South Africa

SPAIN
PHONO S.A.
Ignacio Iglesias 10
Badalona (Barcelona)
Spain
Telex: 59355

SWEDEN
MARANTZ
DIVISION OF PHILIPS
Försäljning AB
Tegeluddsvägen 1
S-115 84 Stockholm
Sweden
Telex: 14060

SWITZERLAND
MARANTZ
Technischer Service
Duenstrasse 3
3186 Düdingen
Switzerland

TURKEY
DOGRUOL Ltd.
I.M.C.
6 Blok N°6310
Unkapani
Istanbul
Turkey
Telex: 22085

MALTA
CACHIA & GALEA
Republic Street, 68D
Valetta
Telex: 1682

PORTUGAL
MARANTZ
Divisao philips S.A. service
Outurela-carnaxide
2795 LinDA-A-VELHA
Telex: 43906

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

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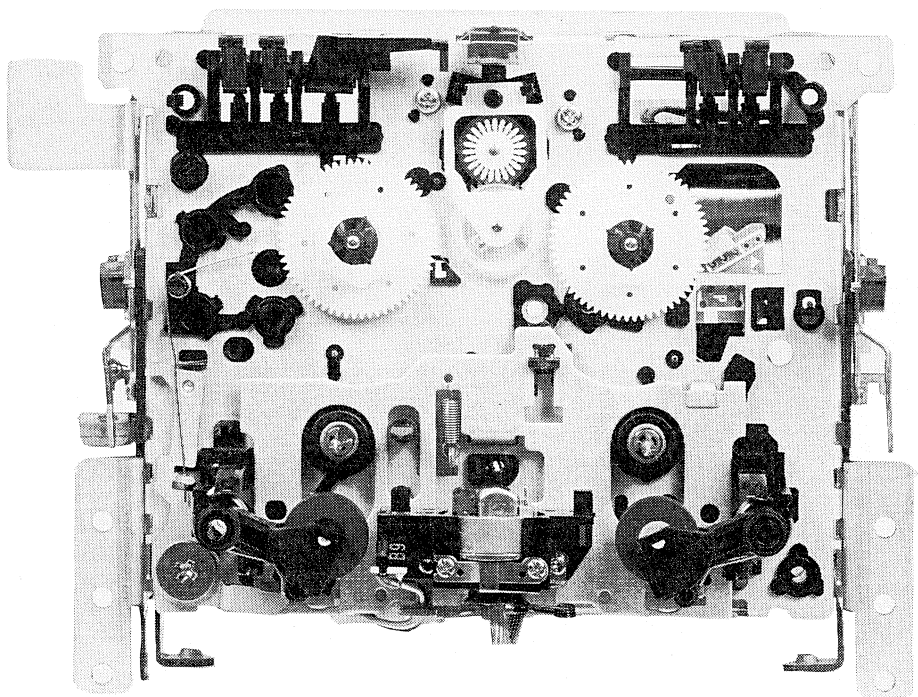
Recorders tape deck CMAY2Z362A
CMAY2Z340A

Service
Service
Service

Service Manual



(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

Docu mentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Servicio

Subject to modification
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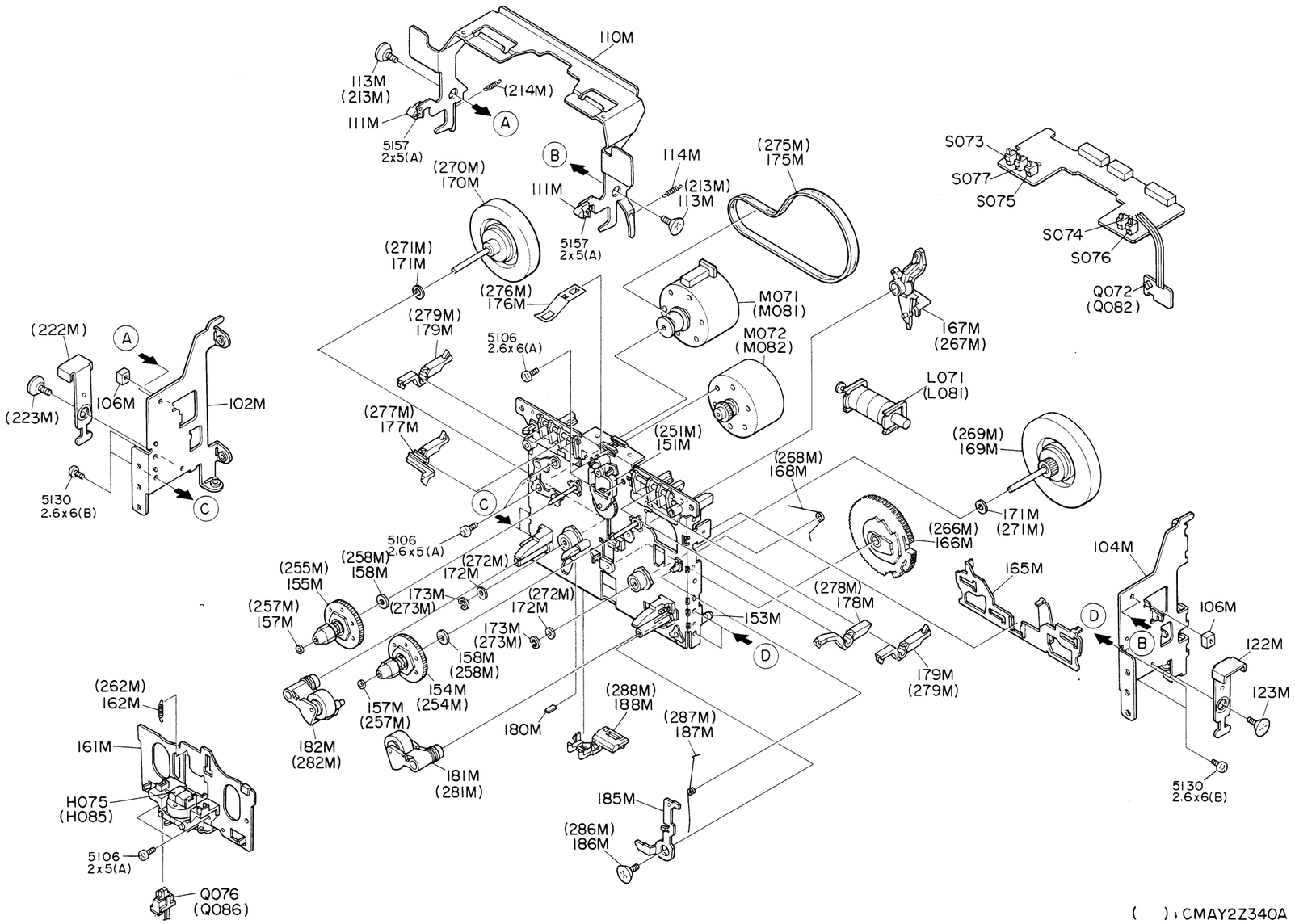

( ) : CMAY2Z340A

REF. DESIG.	PART NO.	DESCRIPTION
106M	4822 466 92366	Stopper, Eject Hook
111M	4822 403 53805	Hook, Eject
113M	4822 502 13463	Screw, Eject Hook
114M	4822 492 70414	Spring, Eject Hook; CMAY2Z362A
123M	4822 502 13463	Screw, Eject Lever; CMAY2Z362A
151M	4822 528 90786	Idler
154M	4822 528 10785	Reel (R)
155M	4822 528 10786	Reel (L)
157M	4822 532 11291	Washer
158M	4822 532 11525	Washer
162M	4822 492 70671	Spring, Head Bracket
166M	4822 522 32925	Cam, Gear
167M	4822 403 70092	Arm, Reverse
168M	4822 492 70669	Spring
169M	4822 528 60367	Flywheel Assembly (R)
170M	4822 528 60368	Flywheel Assembly (L)
171M	4822 532 11398	Washer, Flywheel
172M	4822 532 11399	Washer, Flywheel
173M	4822 532 52213	RG Ring, E Type ϕ1.5
175M	4822 358 31068	Belt, Main
176M	4822 492 70672	Leaf Spring, Cassette Hold
177M	4822 403 70095	Lever, Metal
178M	4822 403 70094	Lever, Pack
179M	4822 403 70093	Lever, Rec
181M	4822 528 81388	Roller, Pinch (R)
182M	4822 528 81389	Roller, Pinch (L)
187M	4822 492 70668	Spring (R)
188M	4822 256 91664	Holder, Head P.W. Board
214M	4822 492 70414	Spring, Eject Hook; CMAY2Z340A
223M	4822 502 13463	Screw, Eject Lever; CMAY2Z340A
H075	4822 249 10406	Head Assembly, Rec/Play/Erase
L071	4822 281 50151	Coil, Solenoid
M071	4822 361 30311	D.C. Motor, Main
M072	4822 361 30309	D.C. Motor, Reel
Q072	4822 130 82208	Photo Unit
Q076	4822 130 82207	Photo Unit, Quick Sensor